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COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF FORESTS AND WATERS  
HARRISBURG

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WATER RESOURCES SERVICE

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# Stream Flow Records

FOR THE YEAR  
October 1, 1932, to September 30, 1933:

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**STREAM FLOW RECORDS  
OF  
PENNSYLVANIA  
FOR THE YEAR  
OCTOBER 1, 1932, to SEPTEMBER 30, 1933.**

**STREAM GAGING, FLOOD WARNING, AND PRECIPITATION**

This volume contains records for the year ending September 30, 1933. All stream flow records previous to and including those for 1911, were published in the 1910-1911 Report of the Water Supply Commission of Pennsylvania. For the years 1912 to 1921, they were published in the annual reports of the Water Supply Commission, with the records for 1917-1918 and 1919-1920 combined and issued in biennial form. Beginning with 1922 the records have been published by the Department of Forests and Waters, Water Resources Service, in reports entitled Stream Flow Records of Pennsylvania. They were published annually with the exception of those for the four years 1929-1932, which were assembled and issued under one cover. To and including the 1913 records, they were compiled for calendar years. The 1914 record was tabulated for the nine months, January to September, while subsequent records have been published for water years, October 1 to September 30.

Since June 1, 1931, the water resource investigations in Pennsylvania, including the collection of stream flow data, have been carried on under cooperative agreement with the Water Resources Branch of the United States Geological Survey.

**STREAM GAGING**

At the beginning of this report period on October 1, 1932, one hundred and three stream gaging stations were in operation. One additional station was established during the year and four stations were discontinued, leaving one hundred stream gaging stations in operation on September 30, 1933. The new station was established on the Allegheny River at Parkers Landing on October 1, 1932. It was provided with a well, shelter, and water-stage recorder, making a total of forty-seven stations supplied with recorder equipment in the State. The locations of the four stations that were discontinued during the year and the dates when they went out of operation are as follows:

French Creek near Saint Peters, December 31, 1932.  
Schuylkill River at Norristown, May 31, 1933.  
Fishing Creek at Bloomsburg, June 10, 1933.  
Lackawanna River at Moosic, June 30, 1933.



This volume contains data for one hundred and nine stations, as shown by the tables of gaging stations and map showing location of gaging stations, of which the records for the four stations on the Delaware River and the two stations in the Potomac Basin are furnished by the New York, New Jersey, and Washington Offices of the United States Geological Survey. Descriptions of stations, tables of daily and monthly discharge, summary of run-off in second-feet per square mile, run-off depth in inches, precipitation, and per cent run-off to precipitation are given for ninety-four gaging stations having a satisfactory rating, while descriptions of stations and daily mean gage heights are published for four base stations operated in the Susquehanna Basin for Flood Warning purposes.

No tables of daily discharge or gage heights are published in this report for Fishing Creek at Bloomsburg, French Creek at Saint Peters, and Lackawanna River at Moosic. These stations were discontinued during the year on account of unsatisfactory conditions which made it impossible to obtain authentic records. The results of the current meter discharge measurements made at these stations during the year can be found in the table of miscellaneous measurements on page 135.

The ratings do not justify the determination of discharge for Conestoga Creek at Lancaster, North Bald Eagle Creek at Milesburg, South Fork of Tenmile Creek at Jefferson, Sugar Creek at Sugarcreek, Tionesta Creek at Nebraska, and Upper Little Swatara Creek at Pine Grove. The results of current meter discharge measurements made at these stations are published in the table of miscellaneous measurements on pages 135-136. The 1932-1933 records for these stations will probably be published in the 1933-1934 Report.

Daily gage heights for Codorus Creek at York and Kiskiminitas River at Vandergrift are not published in this report. The information collected for these stations, or any other unpublished records, can be obtained upon request to the Department of Forests and Waters, Water Resources Service, Harrisburg, Pa.

The flow in the primary drainage basins of the State for the year ending September 30, 1933, as represented by a total drainage area of 42,060 square miles, equivalent to an area of 93.2 per cent of the total area of Pennsylvania, was 7.4 per cent above the mean flow for the 24 years, 1910 to 1933. The flow for the three preceding years, including the unprecedented drought period, ranged from 11.0 to 36.8 per cent below the mean for the years subsequent to 1909.

The flow in the Delaware River was over 30 per cent above the mean flow for the 24 years 1910-1933, and was the highest during the period excepting that for 1927-1928. The other extreme was in the northwest-

ern part of the State, with a flow in the Shenango River over 30 per cent below the mean for the same 24 years. The flows in all of the Delaware Basin streams, and in the North Branch of Susquehanna and Susquehanna Rivers, were well above normal for the year; while in the other Pennsylvania streams, excepting those in the Shenango Basin, the yearly flow was about the normal quantity.

With but few exceptions the low flows during the year were in October following the greatly depleted supply of ground water and low flows of the three previous years. The high flows during the year in the streams in the eastern part of the State occurred just after the unprecedented storm of August 22-24, while the peak stages in the streams west of the Appalachian Mountains and outside the area affected by the storm occurred in March.

#### FLOOD WARNING

The Flood Warning Service was continued in the Susquehanna Basin throughout the year. There were no unusually high stages in streams with large drainage areas; however, information relating to material increases in stream flow was furnished on several occasions to commercial and recreational interests along the major streams.

#### PRECIPITATION

Forty rainfall stations are maintained by the Department of Forests and Waters. Prior to 1920 the Water Supply Commission of Pennsylvania published precipitation records in its annual reports. Since that time, with the exception of a few cases where stations are located in close proximity to others, these records may be found in the monthly and annual reports of the United States Weather Bureau. Records for stations not published by the Weather Bureau are available at the office of the Department of Forests and Waters, Water Resources Service, Harrisburg, Pa.

The average precipitation for the State during the year ending September 30, 1933, as deducted from the observations at 145 well distributed stations, was 51.34 inches, which was an excess of 9.05 inches as compared with the average, computed for the 46 years record 1888 to 1933. It was with but two exceptions the highest during the 46 years and was exceeded by only 1.95 inches in 1889-1890 and 1.22 inches in 1927-1928.

The yearly tables ranged from a minimum of 28.62 inches at Erie, Erie County, to a maximum of 74.64 inches at Bloersville, Cumberland County. The monthly records ranged from 1.21 inches below the normal in January to 3.40 inches above the 46 years average in August, as shown by the table on the following page.



## Precipitation on Pennsylvania for the year ending Sept. 30, 1933.

Month.	Precipitation in Inches	
	46-year Average	1932-33
October .....	3.24	3.31
November .....	2.86	4.75
December .....	3.14	2.19
January .....	3.21	2.00
February .....	2.91	2.30
March .....	3.50	5.33
April .....	3.43	4.49
May .....	3.97	5.86
June .....	4.09	2.58
July .....	4.29	4.26
August .....	4.21	7.61
September .....	3.44	4.66
The year .....	42.29	51.34

The unusual distribution of precipitation on Pennsylvania during the year ending September 30, 1933, as shown by the precipitation map on page 17 may have been unprecedented. On the Delaware and easterly part of the Susquehanna Basins it averaged about 62 inches, while the other extreme was on the northwestern part of the State in the Ohio Basin, with an average of about 33 inches on the drainage areas of the Shenango and Beaver Rivers. On the Allegheny Basin it averaged about 40 inches, on the drainage of the North and West Branches of the Susquehanna River about 45 inches, and on the Juniata, Kiskiminitas, and Youghiogheny Basins about 50 inches.

A large percentage of the excessive precipitation for the year was occasioned by the passage of a tropical storm over the eastern half of Pennsylvania during the latter part of August. The rains of this storm began on the 22nd and continued over a period of three days. They exceeded ten inches at 46 stations and constituted about three-fourths of the monthly rainfall for the eastern half of the State.

In general the region of heaviest rains was southeast of the Appalachian Mountains and included the finest agricultural areas in the State. The storm of August 22-24 was reported by the Weather Bureau as being the most destructive that Pennsylvania had experienced during the 46 years of State Weather Service. Analysis of the three days' rainfall shows amounts in excess of six inches at 43 stations. At York, York County, there was 13.82 inches of rainfall in three days with a monthly total of 17.70 inches, which broke all existing records for the State.

The following table shows the precipitation stations in Pennsylvania used in preparing the precipitation map shown on page 17. The table comprises the stations of the United States Weather Bureau, the Department of Forests and Waters, and those of private interests.

## PRECIPITATION STATIONS IN PENNSYLVANIA

## ATLANTIC DRAINAGE

STATION	COUNTY	DRAINAGE BASIN
Allentown.....	Lehigh.....	Lehigh
Altoona.....	Blair.....	Juniata
Ansonia.....	Tioga.....	West Branch of Susquehanna
Ardmore.....	Montgomery.....	Delaware
Arendtsville.....	Adams.....	Susquehanna
Bakers Summit.....	Bedford.....	Juniata
Bellefonte.....	Centre.....	West Branch of Susquehanna
Bear Gap.....	Northumberland.....	Susquehanna
Bethlehem.....	Northampton.....	Lehigh
Bloersville.....	Cumberland.....	Susquehanna
Brush Valley.....	Columbia.....	North Branch of Susquehanna
Buffalo Mills.....	Bedford.....	Juniata
Campbell's Ledge.....	Lackawanna.....	North Branch of Susquehanna
Carlisle.....	Cumberland.....	Susquehanna
Catawissa.....	Columbia.....	North Branch of Susquehanna
Cedar Run.....	Lycoming.....	West Branch of Susquehanna
Centre Hall.....	Centre.....	Susquehanna
Chadds Ford.....	Delaware.....	Delaware
Chambersburg.....	Franklin.....	Potomac
Clearfield.....	Clearfield.....	West Branch of Susquehanna
Coatesville (a).....	Chester.....	Delaware
Coatesville (b).....	Chester.....	Delaware
Colebrook.....	Lebanon.....	Susquehanna
Conshohocken.....	Montgomery.....	Schuylkill
Cresco (Snow Hill).....	Monroe.....	Delaware
Cresson.....	Cambria.....	Juniata
Doylestown.....	Bucks.....	Delaware
Effort.....	Monroe.....	Delaware
Elizabethtown.....	Lancaster.....	Susquehanna
Emporium.....	Cameron.....	West Branch of Susquehanna
Ephrata.....	Lancaster.....	Susquehanna
Forest City.....	Susquehanna.....	North Branch of Susquehanna
Freeland.....	Luzerne.....	Lehigh
Galeton.....	Potter.....	West Branch of Susquehanna
George School.....	Bucks.....	Delaware
Gettysburg.....	Adams.....	Potomac
Girardville.....	Schuylkill.....	Susquehanna
Goldsboro.....	York.....	Susquehanna
Gordon.....	Schuylkill.....	Susquehanna
Gouldsboro.....	Wayne.....	Lehigh
Graters Ford.....	Montgomery.....	Schuylkill
Hamburg.....	Berks.....	Schuylkill
Hanover.....	York.....	Susquehanna
Harrisburg.....	Dauphin.....	Susquehanna
Harrisburg East (b).....	Dauphin.....	Susquehanna
Harrisburg North (b).....	Dauphin.....	Susquehanna
Hawley.....	Wayne.....	Delaware
Hollisterville.....	Wayne.....	Delaware
Holtwood.....	Lancaster.....	Susquehanna
Huntingdon.....	Huntingdon.....	Juniata
Huntsville Intake.....	Luzerne.....	Susquehanna
Hyndman.....	Bedford.....	Potomac
Kylertown.....	Clearfield.....	West Branch of Susquehanna
Lakeville.....	Wayne.....	Delaware
Lancaster.....	Lancaster.....	Susquehanna
Lansford.....	Carbon.....	Lehigh
Lawrenceville.....	Tioga.....	North Branch of Susquehanna
Lebanon.....	Lebanon.....	Susquehanna
Lewisburg.....	Union.....	West Branch of Susquehanna



STATION	COUNTY	DRAINAGE BASIN
Lock Haven.....	Clinton.....	West Branch of Susquehanna
Loyalsock.....	Lycoming.....	West Branch of Susquehanna
Lykens.....	Dauphin.....	Susquehanna
Marcus Hook.....	Delaware.....	Delaware
Matamoras.....	Pike.....	Delaware
Mauch Chunk.....	Carbon.....	Lehigh
Mercersburg.....	Franklin.....	Potomac
Mifflintown.....	Juniata.....	Juniata
Montrose.....	Susquehanna.....	North Branch of Susquehanna
Morris Run.....	Tioga.....	North Branch of Susquehanna
Mount Carmel (Reservoir No. 6)....	Northumberland.....	North Branch of Susquehanna
Mount Pocono.....	Monroe.....	Delaware
Mount Union.....	Huntingdon.....	Juniata
Muncy Valley.....	Sullivan.....	West Branch of Susquehanna
Neshaminy Falls.....	Bucks.....	Delaware
New Park.....	York.....	Susquehanna
Newport.....	Perry.....	Juniata
Palmerton.....	Carbon.....	Lehigh
Paupack.....	Pike.....	Delaware
Philadelphia.....	Philadelphia.....	Delaware
Philadelphia, Germant'n.....	Philadelphia.....	Delaware
Philadelphia, Navy Yard.....	Philadelphia.....	Delaware
Philadelphia, Pt. Breeze.....	Philadelphia.....	Delaware
Phoenixville.....	Chester.....	Schuylkill
Pike's Creek Intake.....	Luzerne.....	North Branch of Susquehanna
Pine Grove.....	Schuylkill.....	Susquehanna
Pleasant Mount.....	Wayne.....	Delaware
Pottstown.....	Montgomery.....	Schuylkill
Pottsville.....	Schuylkill.....	Schuylkill
Quakertown.....	Bucks.....	Delaware
Reading.....	Berks.....	Schuylkill
Renovo.....	Clinton.....	West Branch of Susquehanna
Retreat.....	Luzerne.....	North Branch of Susquehanna
Saint Peters.....	Chester.....	Schuylkill
Scranton.....	Lackawanna.....	North Branch of Susquehanna
Selinsgrove.....	Snyder.....	Susquehanna
Shamokin.....	Northumberland.....	Susquehanna
Shawmont.....	Philadelphia.....	Schuylkill
Shippensburg.....	Cumberland.....	Susquehanna
Spring Brook Intake.....	Lackawanna.....	North Branch of Susquehanna
Spring Grove.....	York.....	Susquehanna
State College.....	Centre.....	West Branch of Susquehanna
Stroudsburg.....	Monroe.....	Delaware
Sunbury.....	Northumberland.....	Susquehanna
Tamaqua.....	Schuylkill.....	Schuylkill
Towanda.....	Bradford.....	North Branch of Susquehanna
Weikert.....	Union.....	Susquehanna
Wellsboro.....	Tioga.....	West Branch of Susquehanna
West Chester.....	Chester.....	Delaware
West Grove.....	Chester.....	Delaware
Wilkes-Barre (a).....	Luzerne.....	North Branch of Susquehanna
Wilkes-Barre (c).....	Luzerne.....	North Branch of Susquehanna
Williamsport (a).....	Lycoming.....	West Branch of Susquehanna
Williamsport, Hagerman Run (b)....	Lycoming.....	West Branch of Susquehanna
Williamsport, Mosquito Creek (b)....	Lycoming.....	West Branch of Susquehanna
York.....	York.....	Susquehanna
York Haven.....	York.....	Susquehanna
Zionsville.....	Lehigh.....	Schuylkill

## OHIO DRAINAGE

STATION	COUNTY	DRAINAGE BASIN
Beaver Dam.....	Beaver.....	Ohio
Beaver Falls.....	Beaver.....	Beaver
Boydstown Reservoir.....	Butler.....	Allegheny
Bradford.....	McKean.....	Allegheny
Brookville.....	Jefferson.....	Allegheny
Butler.....	Butler.....	Beaver
Chambersville.....	Indiana.....	Allegheny
Clairton.....	Allegheny.....	Monongahela
Claysville.....	Washington.....	Ohio
Clymer.....	Indiana.....	Kiskiminitas
Confluence.....	Somerset.....	Youghiogheny
Connellsville.....	Fayette.....	Youghiogheny
Coraopolis.....	Allegheny.....	Ohio
Corry.....	Erie.....	Allegheny
Coudersport.....	Potter.....	Allegheny
Creekside.....	Indiana.....	Allegheny
Dalton Run.....	Somerset.....	Kiskiminitas
Derry.....	Westmoreland.....	Kiskiminitas
Donora.....	Washington.....	Monongahela
Ebensburg.....	Cambria.....	Kiskiminitas
Elk Lick.....	Somerset.....	Youghiogheny
Franklin.....	Venango.....	Allegheny
Freeport.....	Armstrong.....	Allegheny
Greensboro.....	Green.....	Monongahela
Greensburg.....	Westmoreland.....	Youghiogheny
Greenville.....	Mercer.....	Beaver
Grove City.....	Mercer.....	Beaver
Herrs Island Dam.....	Allegheny.....	Allegheny
Hinckston Run.....	Cambria.....	Kiskiminitas
Ingram.....	Allegheny.....	Ohio
Irwin.....	Westmoreland.....	Youghiogheny
Johnstown.....	Cambria.....	Kiskiminitas
Kane.....	McKean.....	Allegheny
Kregar.....	Westmoreland.....	Youghiogheny
Lake Lynn.....	Fayette.....	Monongahela
Latrobe.....	Westmoreland.....	Kiskiminitas
Laurel Run.....	Cambria.....	Kiskiminitas
Linesville.....	Crawford.....	Beaver
Lock No. 2 (Neville)....	Allegheny.....	Ohio
Lock No. 4 (Charleroi) ..	Washington.....	Monongahela
Lock No. 5 (near Freeport).....	Armstrong.....	Allegheny
Luxor.....	Westmoreland.....	Kiskiminitas
Lycippus.....	Westmoreland.....	Kiskiminitas
McKeesport.....	Allegheny.....	Monongahela
Meadville.....	Crawford.....	Allegheny
Mill Creek.....	Cambria.....	Kiskiminitas
Mosgrove.....	Armstrong.....	Allegheny
Mount Lebanon.....	Allegheny.....	Ohio
Natrona.....	Allegheny.....	Allegheny
New Castle.....	Lawrence.....	Beaver
Newell.....	Fayette.....	Monongahela
North Fork.....	Somerset.....	Kiskiminitas
Parkers Landing.....	Armstrong.....	Allegheny
Pennline.....	Crawford.....	Beaver
Pittsburgh.....	Allegheny.....	Ohio
Punxsutawney.....	Jefferson.....	Allegheny
Pymatuning Dam.....	Crawford.....	Beaver
Quemahoning.....	Somerset.....	Kiskiminitas
Ridgway.....	Elk.....	Allegheny

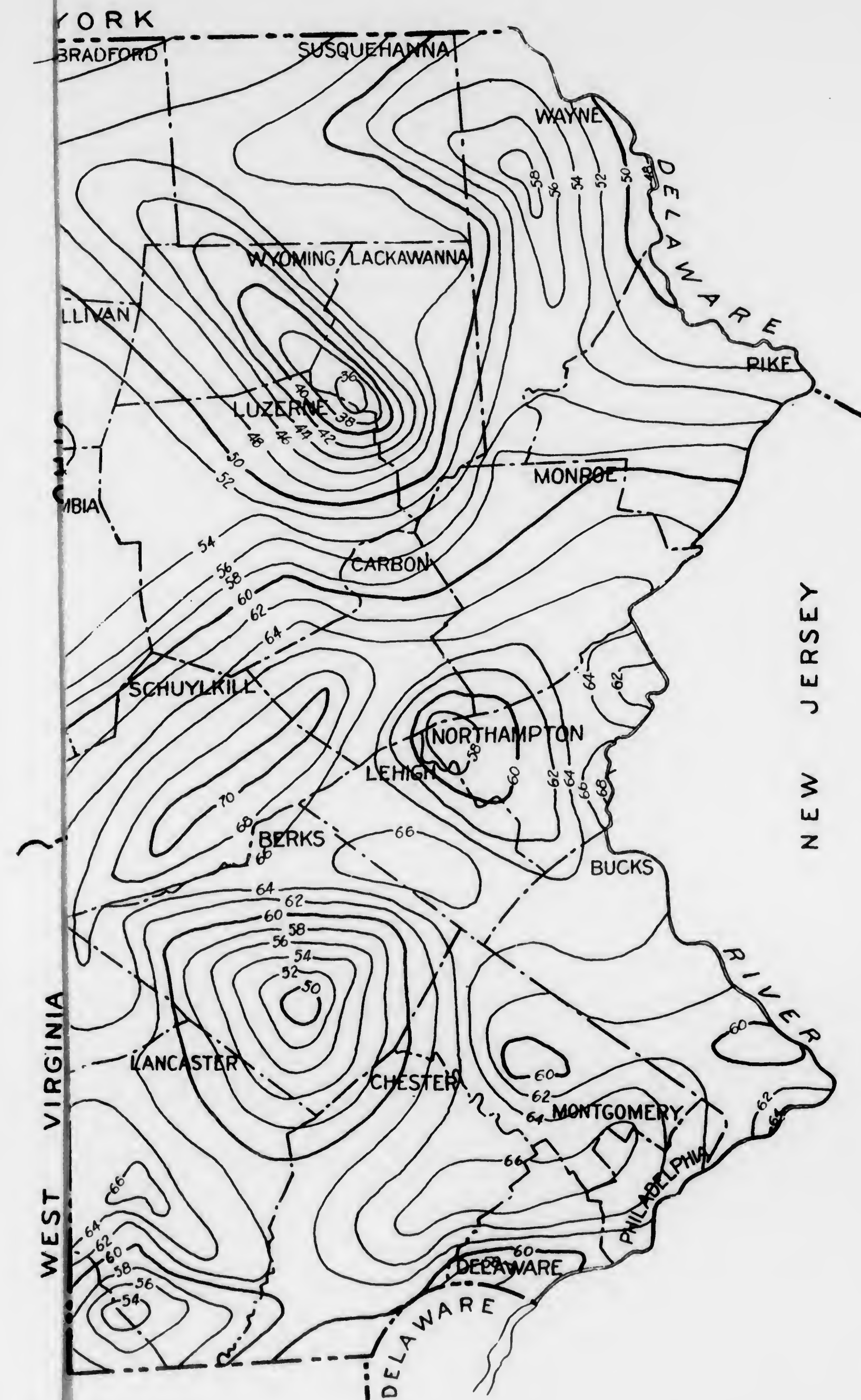


STATION	COUNTY	DRAINAGE BASIN
Saltlick.....	Cambria.....	Kiskiminitas
Saltsburg.....	Indiana.....	Kiskiminitas
Sharon.....	Mercer.....	Beaver
Smethport.....	McKean.....	Allegheny
Somerset.....	Somerset.....	Youghiogheny
Springdale.....	Allegheny.....	Allegheny
Thorn Run Reservoir.....	Butler.....	Allegheny
Titusville.....	Crawford.....	Allegheny
Uniontown.....	Fayette.....	Monongahela
Unity Reservoir.....	Westmoreland.....	Youghiogheny
Vandergrift.....	Westmoreland.....	Kiskiminitas
Warren.....	Warren.....	Allegheny
Waynesburg.....	Greene.....	Monongahela
Westford.....	Crawford.....	Beaver
West Newton.....	Westmoreland.....	Youghiogheny
Zelienople.....	Butler.....	Beaver

## LAKE DRAINAGE

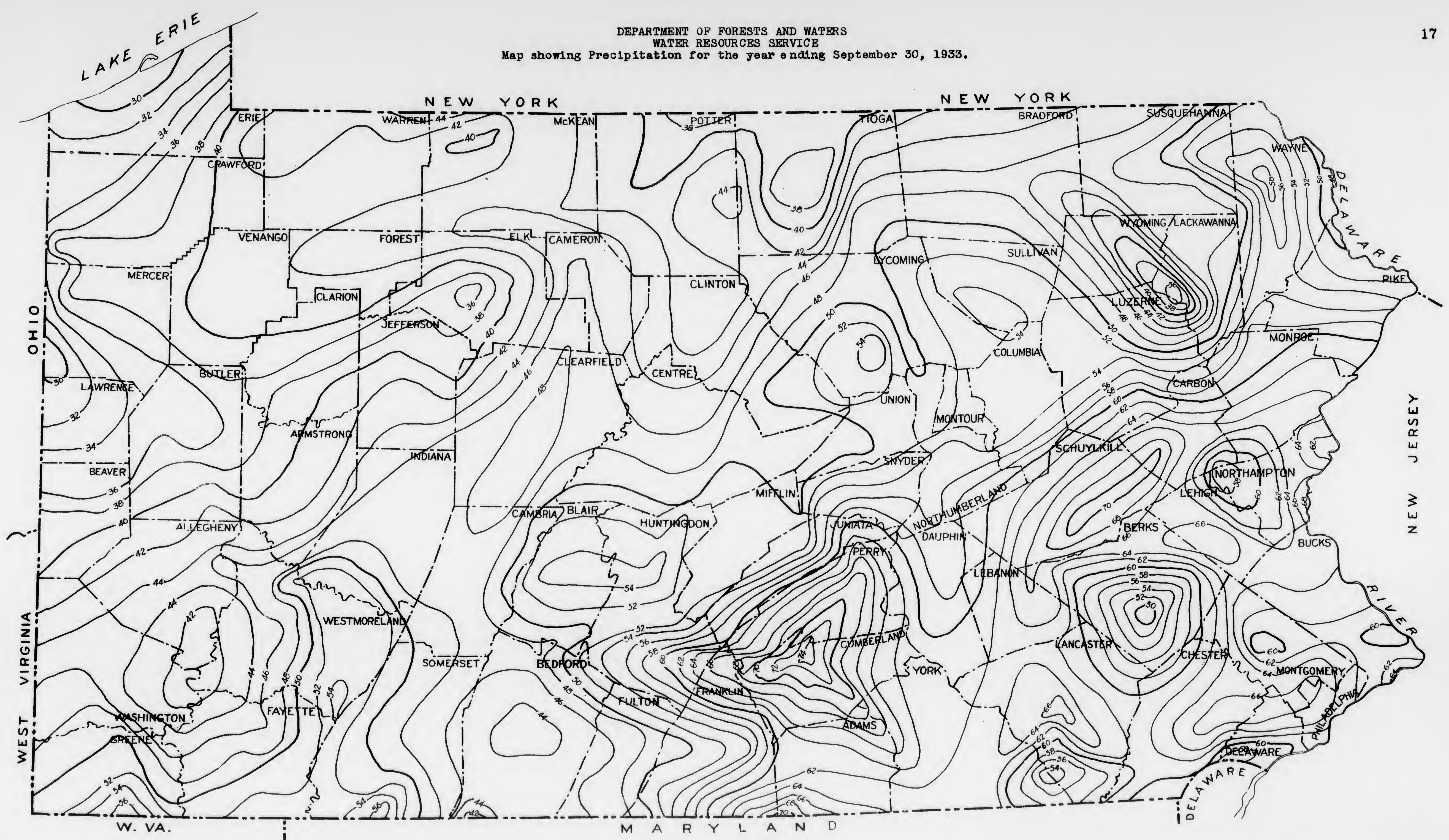
Erie.....Erie.....Lake Erie

- (a) United States Weather Bureau.  
 (b) Department of Forests and Waters, Water Resources Service.  
 (c) Spring Brook Water Supply.  
 (d) Associated Gas and Electric.





DEPARTMENT OF FORESTS AND WATERS  
WATER RESOURCES SERVICE  
Map showing Precipitation for the year ending September 30, 1933.





## STREAM FLOW RECORDS

### DEFINITIONS OF TERMS

The volume of water flowing in a stream—the “run-off” or “discharge”—is expressed in various terms, each of which has become associated with a certain class of work. These terms may be divided into two groups—(1) those that represent a rate of flow, as second-feet, gallons per minute, and discharge in second-feet per square mile, and (2) those that represent the actual quantity of water, as run-off in inches, acre-feet and millions of cubic feet. The principal terms used in this series of reports are second-feet, second-feet per square mile, and run-off in inches. They may be defined as follows:

“Second-feet” is an abbreviation for “cubic feet per second.” A second-foot is the rate of discharge of water flowing in a channel of rectangular cross section 1 foot wide and 1 foot deep at an average velocity of 1 foot per second. It is generally used as a fundamental unit from which others are computed.

“Second-feet per square mile” is the average number of cubic feet of water flowing per second from each square mile of area drained, on the assumption that the run-off is distributed uniformly both as regards time and area.

“Run-off in inches” is the depth to which an area would be covered if all the water flowing from it in a given period were uniformly distributed on the surface. It is used for comparing run-off with rainfall, which is usually expressed in inches.

An “acre-foot” is equivalent to 43,560 cubic feet and is the quantity required to cover an acre to the depth of 1 foot. The term is commonly used in connection with storage and irrigation.

The following terms not in common use are here defined:

“Stage-discharge relation”—an abbreviation for the term “relation of gage height to discharge.”

“Control”—a term used to designate the natural section or stretch of the channel or artificial structure below the gage which determines the stage-discharge relation at the gage.

## CONVERSION TABLES

The following tables afford a ready means of conversion between the terms in common use in hydraulic computations.

*Discharge in second-feet per square mile into run-off in depth in inches*

Discharge (Second-feet per square mile)	Run-off (depth in inches)				
	1 day	28 days	29 days	30 days	31 days
1	0.03719	1.041	1.079	1.116	1.153
2	.07438	2.083	2.157	2.231	2.306
3	.11157	3.124	3.236	3.347	3.459
4	.14876	4.165	4.314	4.463	4.612
5	.18595	5.207	5.399	5.578	5.764
6	.22314	6.248	6.471	6.694	6.917
7	.26033	7.289	7.550	7.810	8.070
8	.29752	8.331	8.628	8.926	9.223
9	.33471	9.372	9.707	10.041	10.376

Note—For part of a month multiply the run-off for 1 day by the number of days.

*Discharge in second-feet into run-off in acre-feet.*

Discharge (second-feet)	Run-off (acre-feet)				
	1 day	28 days	29 days	30 days	31 days
1	1.983	55.54	57.52	59.50	61.49
2	3.967	111.1	115.0	119.0	123.0
3	5.950	166.6	172.6	178.5	184.5
4	7.934	222.1	230.1	238.0	246.0
5	9.917	277.7	287.6	297.5	307.4
6	11.90	333.2	345.1	357.0	368.9
7	13.88	388.8	402.6	416.5	430.4
8	15.87	444.3	460.2	476.0	491.9
9	17.85	499.8	517.7	535.5	553.4

Note—For part of a month multiply the run-off for 1 day by the number of days.

*Discharge in second-feet into run-off in millions of cubic feet.*

Discharge (second-feet)	Run-off (millions of cubic feet)				
	1 day	28 days	29 days	30 days	31 days
1	0.0864	2.419	2.506	2.592	2.678
2	.1728	4.838	5.012	5.184	5.356
3	.2592	7.257	7.518	7.776	8.034
4	.3456	9.676	10.02	10.37	10.71
5	.4320	12.10	12.53	12.96	13.39
6	.5184	14.51	15.04	15.55	16.07
7	.6048	16.93	17.54	18.14	18.75
8	.6912	19.35	20.06	20.74	21.42
9	.7776	21.77	22.55	23.33	24.10

Note—For part of a month multiply the run-off for 1 day by the number of days.



Discharge in second-foot into run-off in millions of gallons.

Discharge (second-foot)	Run-off (millions of gallons)				
	1 day	28 days	29 days	30 days	31 days
1	0.6463	18.10	18.74	19.39	20.04
2	1.293	36.20	37.48	38.78	40.08
3	1.939	54.30	56.22	58.17	60.12
4	2.585	72.40	74.96	77.56	80.16
5	3.232	90.50	93.70	96.95	100.2
6	3.878	108.6	112.4	116.3	120.2
7	4.524	126.7	131.2	135.7	140.3
8	5.170	144.8	149.9	155.1	160.3
9	5.817	162.9	168.7	174.5	180.4

Note—For part of a month multiply the run-off for 1 day by the number of days.

Velocity in feet per second into velocity in miles per hour.

(1 foot per second=0.681818 mile per hour, or very nearly two-thirds mile per hour; 1 mile per hour=1.46666 feet per second. In computing the table the values 0.68182 and 1.4667 were used).

Feet per second (units)	Miles per hour for tenths of foot per second									
	0	1	2	3	4	5	6	7	8	9
0	0.000	0.068	0.136	0.205	0.273	0.341	0.409	0.477	0.545	0.614
1	.682	.750	.818	.886	.955	1.02	1.09	1.16	1.23	1.30
2	1.36	1.43	1.50	1.57	1.64	1.70	1.77	1.84	1.91	1.98
3	2.05	2.11	2.18	2.25	2.32	2.39	2.45	2.52	2.59	2.66
4	2.73	2.80	2.86	2.93	3.00	3.07	3.14	3.20	3.27	3.34
5	3.41	3.48	3.55	3.61	3.68	3.75	3.82	3.89	3.95	4.02
6	4.09	4.16	4.23	4.30	4.36	4.43	4.50	4.57	4.64	4.70
7	4.77	4.84	4.91	4.98	5.05	5.11	5.18	5.25	5.32	5.39
8	5.45	5.52	5.59	5.66	5.73	5.80	5.86	5.93	6.00	6.07
9	6.14	6.20	6.27	6.34	6.41	6.48	6.55	6.61	6.68	6.75

## CONVENIENT EQUIVALENTS.

## LENGTH

1 inch=1/12 foot=0.027778 yard=0.000015783 mile=2.54 centimeters.  
 1 foot=12 inches=1/3 yard=0.00018939 mile=0.3048 meter.  
 1 yard=36 inches=3 feet=0.00056818 mile=0.9144 meter.  
 1 mile=63,360 inches=5,280 feet=1,760 yards=1.60935 kilometers.  
 1 meter=100 centimeters=0.001 kilometer=39.37 inches=3.2808 feet=1.0936 yards=0.00062137 mile.

## SURFACE

1 square inch=0.006944 square foot=0.0007716 square yard=0.0000001594 acre=0.000000002491 square mile=6.45163 square centimeters.  
 1 square foot=144 square inches=1/9 square yard=0.000022957 acre=0.00000003587 square mile=0.0625 square meter.  
 1 square yard=1,296 square inches=9 square feet=0.0002066 acre=0.0000003228 square mile=0.83613 square meter.  
 1 acre=6,272,640 square inches=43,560 square feet=4,840 square yards=0.0015625 square mile=208.71 feet square=0.404687 hectare.  
 1 square mile=4,014,489,600 square inches=27,878,400 square feet=3,097,000 square yards=640 acres=259 hectares.  
 1 square meter=10,000 square centimeters=0.0001 hectare=0.000001 square kilometer=1.550 square inches=10.7639 square feet=1.1959 square yards=0.0002471 acre=0.0000003861 square mile.

## VOLUME

1 cubic inch=0.004329 United States gallon=0.0005787 cubic foot=16.3872 cubic centimeters.  
 1 United States gallon=231 cubic inches=0.13368 cubic foot=0.00000307 acre foot=3.78543 liters.  
 1 cubic foot=1,728 cubic inches=7.4805 United States gallons=0.037037 cubic yards=0.000022957 acre-foot=28.317 liters.  
 1 cubic yard=46,656 cubic inches=27 cubic feet=0.00061963 acre-foot=0.76456 cubic meter.  
 1 acre foot=325,851 United States gallons=43,560 cubic feet=1,613 1/3 cubic yards=1,233.49 cubic meters.  
 1 cubic meter, stere, or kiloliter=1,000,000 cubic centimeters=1,000 liters=61.023.4 cubic inches=264.17 United States gallons=35.3145 cubic feet=1.30794 cubic yards=0.000810708 acre-foot.

## HYDRAULICS

1 United States gallon of water weighs 8.34 pounds avoirdupois.  
 1 cubic foot of water weighs 62.5 pounds avoirdupois.  
 1 second-foot=7.48 United States gallons per second=448.8 United States gallons per minute=26,929.9 United States gallons per hour=646,317 United States gallons per day.  
 1 second-foot=60 cubic feet per minute=3,600 cubic feet per hour=86,400 cubic feet per day=31,536,000 cubic feet per year=0.000214 cubic mile per year.  
 1 second-foot=0.9917 acre-inch per hour=1.983471 acre-feet per day=723,966,942 acre-feet per year.  
 1 second-foot=0.028317 cubic meter per second=1.699 cubic meters per minute=101.941 cubic meters per hour=2,446.58 cubic meters per day.  
 1 second-foot for 1 year (365 days) will cover 1 square mile 1.1312 feet or 13.5744 inches deep.  
 1 second-foot falling 10 feet=1.135 horsepower.  
 100 United States gallons per minute=0.223 second-foot=0.442 acre-foot in one day.  
 1 million gallons per day=1.55 second-foot=3.07 acre-feet per day=2.629 cubic meters per minute.  
 1 million gallons per month=0.05525 second-foot for one 28-day month=0.05334 second-foot for one 29-day month=0.05157 second-foot for one 30-day month=0.04990 second-foot for one 31-day month.  
 1,000,000,000 (1 United States billion) cubic feet=11,570 second-foot for one day=413 second-foot for one 28-day month=399 second-foot for one 29-day month=386 second-foot for one 30-day month=373 second-foot for one 31-day month.  
 1 horsepower=1 second-foot falling 8.8 feet.  
 1 horsepower=1 second-foot falling 11.0 feet, 80 percent efficiency.  
 1 horsepower=5,694,120 foot-gallons per day=550 foot-pounds per second=33,000 foot-pounds per minute=1,980,000 foot-pounds per hour=2,545 British thermal units per hour=76 kilogrammeters per second=1.27 kilogrammeters per minute=746 watts.  
 1,3405 horsepower=1 kilowatt.  
 1 inch deep on 1 square mile=2,323,200 cubic feet=0.0737 second-foot for 1 year.  
 1 foot deep (head of 1-foot)=0.434 pound pressure on 1 square inch.  
 1 cubic meter per minute=0.5886 second-foot=4.403 United States gallons per second=1.1674 acre-feet per day.  
 1 foot per second=0.68 mile per hour=1.097 kilometers per hour.  
 Acceleration of gravity, g=32.16 feet per second.

## EXPLANATION OF DATA

The data presented in this report cover the year beginning October 1, 1932, and ending September 30, 1933. At the beginning of January in most parts of the United States much of the precipitation in the preceding 3 months is stored in the form of snow or ice, or in ponds, lakes, and swamps, or as underground water, and this stored water passes off in the streams during the spring break-up. At the end of September, on the other hand, the only stored water available for run-off is possibly a small quantity in the ground; therefore, the run-off for the year beginning October 1 is practically all derived from precipitation within that year.

The base data collected at gaging stations consist of records of stage, measurements of discharge, and general information used to supplement the gage heights and discharge measurements in determining the daily flow. The records of stage are obtained either from direct readings on a staff or chain gage or from a water-stage recorder that gives a continuous record of the fluctuations. Measurements of discharge are made with a current meter by the general methods outlined in standard textbooks on the measurement of river discharge.

Rating tables giving the discharge for any stage are prepared from the discharge measurements. The application of the daily gage height to these rating tables gives the daily discharge from which the monthly and yearly mean discharge is computed.



The data presented for each gaging station covered by this report comprise a description of the station, a table showing the daily discharge of the stream, a table of monthly and yearly discharge and run-off, and a summary table of run-off in second-feet per square mile, run-off depth in inches, precipitation, and per cent run-off to precipitation. For stations with insufficient base data to determine the daily discharge, the results of current meter discharge measurements are published in the table of miscellaneous discharge measurements.

The description of the station gives, in addition to statements regarding location and type of gage, information as to diversions that decrease the flow at the gage, artificial regulation, maximum and minimum recorded discharges, accuracy of the records, and average discharge for the stations that have a record for ten or more years. The maximum discharge given under "Extremes" represents the crest discharge determined from records of stage by water-stage recorders, or in case of non-recording gages it is determined from flood marks or from graphs based on gage readings made once daily or more frequently.

The table of daily discharge gives, in general, the discharge in second-feet corresponding to the daily gage height, which may be a once-daily reading or the mean of twice-daily readings of a nonrecording gage, or the mean daily gage height obtained from a water-stage recorder graph.

At stations on streams subject to sudden or rapid diurnal fluctuation, the discharge obtained from the rating table and the mean daily gage height may not be the true mean discharge for the day. If such stations are equipped with water-stage recorders, the mean daily discharge may be obtained by averaging discharge at regular intervals during the day or by using the discharge integrator, an instrument for obtaining mean daily discharge from a continuous gage-height graph and containing as an essential element the rating curve of the station.

In the table of monthly discharge the column headed "Maximum" gives the maximum daily discharge and not the discharge when the water surface was at crest height. Likewise, in the column headed "Minimum" the quantity given is the minimum daily discharge. The column headed "Mean" is the average flow in cubic feet per second during the month. On this average flow are based computations recorded in the remaining columns, which are defined on page 18.

#### ACCURACY OF FIELD DATA AND COMPUTED RECORDS

The accuracy of stream-flow data depends primarily (1) on the permanency of the stage-discharge relation and (2) on the accuracy of observation of stage, measurements of flow, and interpretation of records.

The station description gives a statement in regard to the general accuracy of the records. "Excellent" indicates that records are accurate within 5 per cent; "good," within 10 per cent; "fair," within 15 per cent; and "poor," within 20 per cent or more.

The monthly means for any station may represent with high accuracy the quantity of water flowing past the gage, but the figures showing discharge per square mile and run-off in inches may be subject to gross errors caused by the inclusion of large noncontributing districts in the measured drainage area.

The table of monthly discharge gives a general idea of the flow at the station. The table of daily discharge allows more detailed studies of the variation in flow. It should be borne in mind, however, that the observations in each succeeding year may be expected to throw new light on data previously published.

The Commonwealth of Pennsylvania is divided into six drainage basins; the Delaware, Susquehanna, Potomac, Genesee, Erie, and Ohio. The hydrographic data in the following pages are divided into four groups corresponding to the basins in which the stations are located. There are no gaging stations in the Erie or Genesee Basins. The stations in each basin are shown in the following tables and their locations are indicated on the stream gaging map with reference numbers corresponding to those given in the tables.

*Gaging Stations in Delaware Basin \**

Station No.	Stream	Location
1	Delaware River.....	Port Jervis, N. Y.
2	Delaware River.....	Belvidere, N. J.
3	Delaware River.....	Riegelsville
4	Delaware River.....	Trenton, N. J.
5	Lackawaxen River.....	West Hawley
6	Wallenpaupack Creek.....	Wilsonville
7	Bushkill Creek.....	Shoemakers
8	McMichaels Creek.....	Stroudsburg
9	Lehigh River.....	Tannery
10	Lehigh River.....	Bethlehem
11	Neshaminy Creek.....	Rushland
12	Schuylkill River.....	Pottstown
13	Schuylkill River.....	Norristown
14	Schuylkill River.....	Philadelphia
15	Little Schuylkill River.....	Tamaqua
16	French Creek.....	Saint Peters
17	Perkiomen Creek.....	Graters Ford
18	Crum Creek.....	Woodlyn
19	Ridley Creek.....	Moylan
20	Chester Creek.....	Chester
21	White Clay Creek.....	Newark, Del.
22	Mill Creek.....	Stanton, Del.
23	Brandywine Creek.....	Chadds Ford
24	Leipsic River.....	Cheswold, Del.
25	Murderkill River.....	Felton, Del.

\* For information available on each station, see description of station.



## Gaging Stations in Susquehanna Basin \*

Station No.	Stream	Location
1	North Branch of Susquehanna River.....	Binghamton, N. Y.
2	North Branch of Susquehanna River.....	Towanda
3	North Branch of Susquehanna River.....	Wilkes-Barre
4	North Branch of Susquehanna River.....	Danville
5	Susquehanna River .....	Sunbury
6	Susquehanna River .....	Harrisburg
7	Susquehanna River .....	Marietta
8	Chemung River .....	Corning, N. Y.
9	Towanda Creek .....	Monroeton
10	Tunkhannock Creek .....	Dixon
11	Lackawanna River .....	Moosic
12	Wapwallopen Creek .....	Wapwallopen
13	Fishing Creek .....	Bloomsburg
14	West Branch of Susquehanna River.....	Bower
15	West Branch of Susquehanna River.....	Renovo
16	West Branch of Susquehanna River.....	Lock Haven
17	West Branch of Susquehanna River.....	Williamsport
18	Clearfield Creek .....	Dimeling
19	Driftwood Branch of Sinnemahoning Creek...	Sterling Run
20	North Bald Eagle Creek .....	Milesburg
21	North Bald Eagle Creek .....	Beech Creek Station
22	Pine Creek .....	Cedar Run
23	Lycoming Creek .....	Trout Run
24	Loyalsock Creek .....	Loyalsock
25	Penn Creek .....	Penns Creek
26	Mahantango Creek East .....	Dalmatia
27	Frankstown Branch of Juniata River.....	Williamsburg
28	Juniata River .....	Newport
29	Shaver Creek .....	Petersburg
30	Standing Stone Creek .....	Huntingdon
31	Raystown Branch of Juniata River.....	Saxton
32	Dunning Creek .....	Yount
33	Brush Creek .....	Gapsville
34	Great Trough Creek .....	Marklesburg
35	Aughwick Creek .....	Orbisonia
36	Tuscarora Creek .....	Port Royal
37	Cocolamus Creek .....	Millerstown
38	Sherman Creek .....	Shermandale
39	Conodoguinet Creek .....	Hogestown
40	Swatara Creek .....	Harper Tavern
41	Upper Little Swatara Creek .....	Pine Grove
42	West Conewago Creek .....	Manchester
43	Codorus Creek .....	Spring Grove
44	Codorus Creek .....	York
45	South Branch of Codorus Creek.....	York
46	Conestoga Creek.....	Lancaster
47	Muddy Creek .....	Castle Fin

## Gaging Stations in Potomac Basin \*

Station No.	Stream	Location
1	Evitts Creek .....	Bedford Valley
2	Licking Creek .....	Sylvan

\* For information available on each station, see description of station.

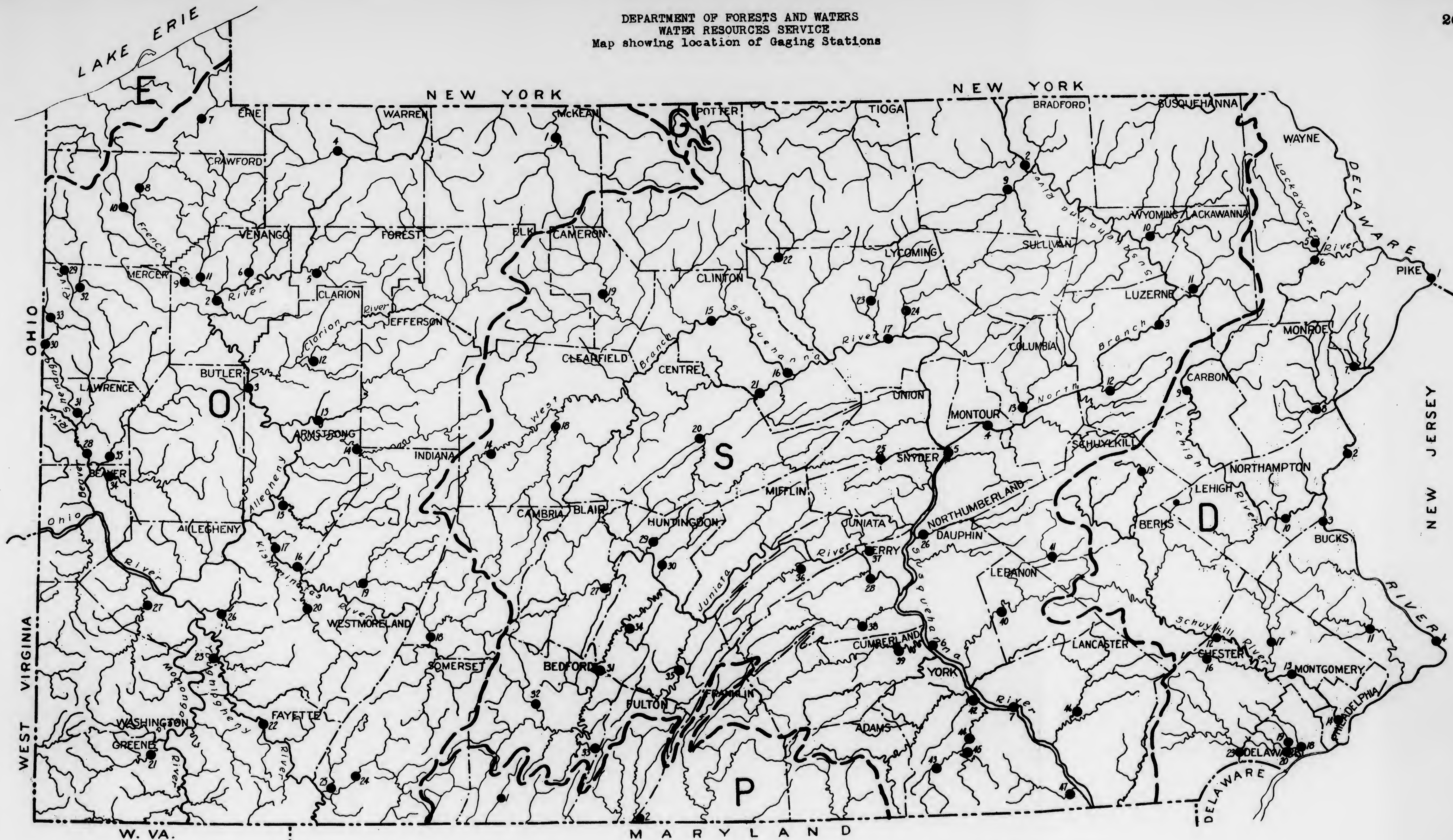
## Gaging Stations in Ohio Basin \*

Station No.	Stream	Location
1	Allegheny River.....	Larabee
2	Allegheny River.....	Franklin
3	Allegheny River.....	Parkers Landing
4	Brokenstraw Creek.....	Youngsville
5	Tionesta Creek.....	Nebraska
6	Oil Creek.....	Rouseville
7	French Creek.....	Carters Corners (Kimmeytown)
8	French Creek.....	Saegertown
9	French Creek.....	Utica
10	Cussewago Creek.....	Meadville
11	Sugar Creek .....	Sugarcreek
12	Clarion River.....	Piney
13	Redbank Creek.....	Saint Charles
14	Mahoning Creek.....	Dayton
15	Crooked Creek.....	Ford City
16	Kiskiminitas River.....	Avonmore
17	Kiskiminitas River.....	Vandergrift
18	Stony Creek.....	Johnstown
19	Blacklick Creek.....	Blacklick
20	Loyalhanna Creek.....	New Alexandria
21	South Fork of Tenmile Creek...	Jefferson
22	Youghiogheny River.....	Connellsville
23	Youghiogheny River.....	Sutersville
24	Casselman River.....	Markleton
25	Laurel Hill Creek.....	Ursina
26	Turtle Creek.....	Trafford
27	Chartiers Creek.....	Carnegie
28	Beaver River.....	Wampum
29	Shenango River.....	Jamestown
30	Shenango River.....	Sharon
31	Shenango River.....	New Castle
32	Little Shenango River.....	Greenville
33	Pymatuning Creek.....	Orangeville
34	Connoquenessing Creek.....	Hazen
35	Slippery Rock Creek.....	Wurtemburg

\* For information available on each station, see description of station.



DEPARTMENT OF FORESTS AND WATERS  
WATER RESOURCES SERVICE  
Map showing location of Gaging Stations



Legend to Drainage Basins.- D, Delaware; S, Susquehanna; P, Potomac; G, Genesee; E, Erie; O, Ohio.



**GAGING-STATION RECORDS**

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**DELAWARE BASIN**

## DELAWARE BASIN

Delaware River at Port Jervis, N. Y.

LOCATION.- Water-stage recorder near highway bridge at Port Jervis, Orange County, 1½ miles above mouth of Neversink River. Zero of gage is 415.605 feet above mean sea level.

DRAINAGE AREA.- 3,070 square miles.

RECORDS AVAILABLE.- October 1904 to September 1933.

EXTREMES.- Maximum discharge during year, 85,600 second-feet Aug. 25 (gage height, 15.03 feet); minimum, 478 second-feet Aug. 5 (gage height, 1.17 feet).

1904-33: Maximum discharge, 92,700 second-feet Mar. 28, 1914 (gage height, 16.0 feet); minimum, 175 second-feet Sept. 22 and 23, 1908 (gage height, 0.60 foot).

Maximum discharge known. about 155,000 second-feet Oct. 10-11, 1903 (gage height, 23.3 feet).

REMARKS.- Records good except those for periods of ice effect, Dec. 16-22, and Feb. 13-14, which are fair. Large diurnal fluctuation at medium and low stages due to operation of power plants on tributary streams. Seasonal flow considerably regulated by storage in Wallenpaupack Reservoir and Toronto and Swinging Bridge Reservoirs on Mongaup River, having a combined total capacity of 12.2 billion cubic feet. Records furnished by United States Geological Survey, Albany, N. Y.

AVERAGE DISCHARGE.- 28 years (1905-33), 5,550 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	757	5,230	4,660	6,590	3,760	4,220	8,880	4,350	2,560	1,160	1,550	4,410
2	614	20,000	4,420	4,890	3,920	4,230	16,600	4,440	2,400	1,430	1,200	3,900
3	606	15,400	3,910	4,880	3,880	4,260	22,800	4,400	2,160	1,190	850	3,550
4	794	10,700	3,520	5,020	3,420	3,820	23,500	5,140	1,900	2,040	946	10,100
5	905	8,470	3,670	5,720	2,870	3,400	19,800	5,920	1,950	1,990	769	20,400
6	9,960	7,040	3,790	4,960	2,490	3,410	15,700	4,980	4,670	1,480	1,340	12,600
7	52,200	6,850	3,210	4,400	2,410	3,820	14,800	4,730	5,720	1,270	1,440	8,660
8	24,400	6,660	3,200	3,510	3,460	6,200	18,800	5,290	4,070	1,160	1,680	6,720
9	11,500	6,660	3,050	3,790	4,400	11,200	15,500	4,790	3,210	863	1,360	6,200
10	7,440	12,000	3,010	3,530	3,920	9,440	12,400	5,010	2,590	754	1,200	5,310
11	5,740	24,900	2,470	3,680	2,900	5,960	11,000	5,740	2,120	1,460	1,360	4,460
12	4,560	17,300	2,360	4,260	2,460	4,540	10,800	5,390	2,120	1,510	901	4,280
13	3,820	12,700	2,680	4,120	2,600	5,170	12,400	4,670	2,290	1,330	973	3,740
14	3,420	10,500	2,780	4,100	3,000	6,910	16,700	3,880	1,770	760	804	3,660
15	3,010	8,900	2,560	2,960	3,580	11,800	17,400	3,890	1,530	823	939	6,720
16	2,720	7,640	2,200	3,250	3,680	14,300	17,200	3,990	1,630	754	1,500	15,400
17	2,550	8,490	2,000	3,830	3,610	11,000	17,800	3,480	1,680	664	1,780	26,900
18	3,520	11,000	1,900	3,980	3,510	10,000	29,700	3,470	1,410	1,260	1,680	18,900
19	3,960	12,400	1,900	4,100	3,290	10,000	24,200	3,320	1,220	917	1,690	13,200
20	4,560	31,900	2,000	5,290	4,050	10,000	18,000	3,010	1,350	868	1,180	10,400
21	4,260	23,600	2,400	6,010	5,410	14,500	14,200	2,520	1,240	751	1,350	8,260
22	3,550	16,800	2,600	5,130	5,410	24,800	11,300	2,960	1,270	1,410	2,770	7,860
23	3,130	13,000	2,290	10,100	5,350	18,800	9,360	3,200	1,400	680	8,500	6,990
24	3,040	9,790	2,380	9,870	5,860	13,500	8,210	3,010	1,190	626	42,300	6,260
25	3,230	8,900	2,840	7,890	6,100	10,900	7,120	3,010	1,470	1,680	70,100	5,570
26	2,910	7,540	4,260	7,160	4,720	10,000	6,660	2,750	742	1,670	32,200	5,320
27	3,000	5,910	4,260	6,360	4,410	9,560	6,470	2,520	1,060	1,120	17,300	4,660
28	3,190	5,070	4,260	5,570	4,170	9,340	6,100	2,010	1,190	1,340	11,300	4,120
29	3,350	4,710	4,560	4,660		8,470	5,220	1,980	1,280	1,150	8,370	3,690
30	2,790	4,570	4,950	4,340		7,440	4,460	2,400	1,200	1,080	6,280	3,040
31	2,840		5,640	3,930		7,240		2,370		924	5,050	

Month	Observed			Storage	Observed		
	Maximum	Minimum	Mean	Correction sec.-ft.	Mean	Per square mile	Run-off in inches
October.....	52,200	606	5,880	+172			
November.....	31,900	4,570	11,500	+710			
December.....	5,640	1,900	3,220	-330			
January.....	10,100	2,960	5,090	-239			
February.....	6,100	2,410	3,880	-48			
March.....	24,800	3,400	8,980	+580			
April.....	29,700	4,460	14,100	+679			
May.....	5,920	1,980	3,830	-207			
June.....	5,720	742	2,010	-450			
July.....	2,040	626	1,170	-399			
August.....	70,100	769	7,440	+791			
September.....	26,900	3,040	8,180	+154			
The year.....	70,100	606	6,260	+117		2.04	27.69

## DELAWARE BASIN

Delaware River at Belvidere, N. J.

LOCATION.- Water-stage recorder at Belvidere, Warren County, just below mouth of Pequest River.

DRAINAGE AREA.- 4,540 square miles.

RECORDS AVAILABLE.- October 1922 to September 1933.

EXTREMES.- Maximum discharge during year, about 125,000 second-feet Aug. 25 (gage height, 19.90 feet); minimum, 923 second-feet Oct. 3, 4 (gage height, 2.49 feet).

1922-33: Maximum discharge, that of Aug. 25, 1933; minimum, 838 second-feet Sept. 28, 1932 (gage height, 2.37 feet).

The stage of 28.6 feet, from authentic high-water mark, was reached in October 1903.

REMARKS.- Records excellent except those above 60,000 second-feet and those estimated, Jan. 23, July 3-11, which are fair. Part of table of monthly discharge corrected for effect of storage in reservoirs on Wallenpaupack Creek and Mongaup River.

AVERAGE DISCHARGE.- 11 years (1922-33), 7,820 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,130	6,980	7,100	8,680	5,890	6,780	11,900	6,940	4,060	1,840	1,310	6,940
2	1,160	23,200	7,270	7,440	5,620	6,780	17,400	6,940	3,820	1,930	1,900	6,180
3	1,010	26,600	6,780	6,780	5,890	6,780	26,200	7,100	3,580	3,800	1,620	5,750
4	970	16,900	6,180	6,620	5,750	6,620	29,400	7,610	3,470	4,400	1,270	16,400
5	1,120	13,700	5,890	7,100	4,950	6,030	26,900	8,140	3,250	3,600	1,450	30,800
6	5,330	11,400	6,030	7,440	3,940	5,480	21,600	8,140	4,080	3,400	1,150	22,700
7	65,700	11,000	5,750	6,470	3,940	5,750	19,900	7,960	7,520	3,000	1,680	15,500
8	43,000	11,000	5,480	5,890	5,750	7,960	22,100	7,440	6,940	2,400	1,770	11,400
9	17,800	10,200	5,080	5,340	6,780	12,800	21,600	7,610	5,340	2,000	2,040	9,810
10	11,000	16,700	5,080	5,620	5,620	14,600	17,400	7,440	4,690	1,800	1,820	8,860
11	8,140	32,200	4,690	5,340	4,560	10,000	15,500	8,140	3,940	1,600	1,850	7,440
12	6,780	28,800	4,180	5,890	4,560	7,780	15,900	8,140	3,250	1,900	1,920	6,780
13	5,480	19,900	4,430	6,470	4,180	7,440	19,400	7,440	3,250	2,020	1,520	6,180
14	4,950	18,900	4,430	5,890	4,820	9,620	21,600	6,940	3,250	1,800	1,840	5,890
15	4,560	13,700	4,060	5,620	5,890	13,700	23,300	6,180	2,730	1,310	1,710	14,000
16	3,940	11,900	3,250	4,820	5,890	17,900	23,300	6,320	2,540	1,380	1,510	29,100
17	3,820	11,000	3,040	5,340	5,750	16,400	24,400	6,820	2,440	1,410	1,840	43,600
18	4,780	13,200	3,040	5,750	5,890	13,700	39,200	5,750	2,540	1,220	2,250	34,900
19	7,610	16,900	3,250	5,890	5,750	14,100	39,900	5,480	2,230	1,700	2,210	23,300
20	7,610	37,300	2,940	6,470	6,780	14,100	28,800	5,340	2,040	1,450	2,210	17,900
21	7,270	38,000	3,470	7,780	9,620	19,400	22,100	5,340	2,110	1,420	1,780	14,600
22	6,320	26,200	4,180	7,960	9,430	32,800	18,400	4,690	1,950	1,320	3,380	12,800
23	5,340	19,900	4,180	9,000	9,240	32,200	15,000	4,950	1,980	1,770	7,500	11,400
24	4,820	15,900	4,060	13,200	9,240	22,700	13,200	4,950	2,040	1,280	42,400	10,400
25	4,690	13,200	4,820	11,000	9,430	17,900	11,400	4,950	1,870	1,060	109,000	9,050
26	4,690	12,300	6,030	9,810	9,050	15,900	10,600	4,690	2,090	2,110	57,600	8,500
27	4,820	10,600	7,100	9,050	7,270	15,000	10,200	4,430	1,450	2,140	28,100	7,780
28	5,080	8,140	7,440	8,320	6,940	14,600	9,430	3,940	1,720	1,640	17,900	7,100
29	5,210	7,610	7,610	7,440		13,700	8,860	3,470	1,820	1,790	13,200	6,470
30	4,950	7,440	7,440	6,470		11,900	7,780	3,940	1,900	1,620	10,200	5,750
31	4,300		7,780	6,180		11,000		4,060		1,510	8,140	
Month	Observed			Corrected for storage								
	Maximum	Minimum	Mean	Mean	Per square mile	Run-off in inches						
October.....	43,000	970	8,500	8,670	1.91	2.20						
November.....	38,000	6,980	16,900	17,600	3.88	4.33						
December.....	7,780	2,940	5,230	4,900	1.08	1.24						
January.....	13,200	4,820	7,130	6,890	1.52	1.75						
February.....	9,620	3,940	6,370	6,320	1.39	1.45						
March.....	32,800	5,480	13,300	13,900	3.06	3.53						
April.....	39,900	7,780	19,800	20,400	4.49	5.01						
May.....	8,140	3,470	6,150	5,950	1.31	1.51						
June.....	7,520	1,450	3,130	2,680	.590	.66						
July.....	4,400	1,060	1,990	1,590	.350	.40						
August.....	109,000	1,150	10,800	11,600	2.56	2.95						
September.....	43,600	5,750	13,900	14,100	3.11	3.47						
The year.....	109,000	970	9,410	9,520	2.10	28.50						



## Delaware River at Riegelsville, N. J.

LOCATION.- Water-stage recorder at suspension bridge at Riegelsville, Warren County, 600 feet above mouth of Musconetcong River flow of which is included in records subsequent to Oct. 1, 1931.

DRAINAGE AREA.- 6,340 square miles (revised to include drainage area of Musconetcong River).

RECORDS AVAILABLE.- July 1906 to September 1933.

EXTREMES.- Maximum discharge during year, about 141,000 second-feet Aug. 25 (gage height, 25.0 feet); minimum, not including flow in Pennsylvania Canal, 1,220 second-feet Oct. 4 (gage height, 1.81 feet).

1906-33: Maximum discharge, about 144,000 second-feet Mar. 28, 1913 (gage height, 25 feet); minimum, not including flow in canal, 870 second-feet Sept. 20, 1908 (gage height, 1.55 feet).

Maximum stage known, 35.9 feet, from authentic high-water marks, Oct. 10, 11, 1903 (discharge, about 275,000 second-feet).

REMARKS.- Records good. Part of table of monthly discharge corrected for diversion in Pennsylvania Canal and for effect of storage in Wallenpaupack Creek, in Swinging Bridge and Toronto Reservoirs on Mongaup River, and in Lake Hopatcong.

AVERAGE DISCHARGE.- Corrected for diversions and storage, 27 years (1906-33), 10,800 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,560	9,120	10,500	12,000	8,480	10,900	17,100	12,000	7,660	3,630	2,140	11,200
2	1,640	32,900	10,500	10,900	8,480	10,500	22,600	11,200	7,170	3,390	2,530	9,840
3	1,470	36,000	10,200	9,840	8,480	10,200	32,000	11,600	6,700	5,760	2,530	9,160
4	1,320	25,500	9,500	9,500	8,480	10,200	36,500	12,400	6,380	6,380	2,440	29,400
5	1,500	19,700	8,820	9,840	7,820	9,500	35,700	12,400	5,920	5,310	2,440	46,900
6	6,410	16,300	8,820	10,200	6,230	8,820	30,000	12,400	6,080	4,860	2,160	36,300
7	42,000	16,300	8,480	9,500	5,920	8,480	28,500	13,100	9,430	4,140	2,250	25,000
8	54,300	16,300	8,150	8,820	9,840	12,000	30,000	12,400	9,840	3,510	2,530	18,400
9	25,100	14,600	7,660	8,150	11,200	17,100	31,000	12,700	8,150	3,160	2,840	15,400
10	14,700	24,900	7,170	8,150	8,820	20,200	26,000	13,100	7,660	2,940	2,840	13,900
11	10,500	39,200	6,850	7,820	8,480	15,000	22,600	13,500	6,540	2,530	3,630	12,000
12	8,480	41,000	6,540	8,480	7,660	12,400	25,000	13,500	5,610	2,840	3,510	10,500
13	6,850	30,500	6,380	9,500	7,490	11,200	31,500	12,700	5,010	3,160	2,940	9,500
14	6,080	24,000	6,850	8,150	7,660	14,600	31,500	12,000	5,160	2,940	3,880	9,500
15	5,460	19,700	6,230	8,480	9,500	19,700	33,600	11,200	4,560	2,530	3,760	22,200
16	5,010	17,100	5,010	7,170	8,820	26,000	33,100	10,500	4,140	2,630	2,840	42,100
17	4,860	16,300	4,560	7,170	8,820	25,000	36,800	11,200	4,010	2,840	3,390	51,200
18	6,200	18,000	4,280	7,820	9,160	21,100	55,700	10,200	4,140	2,940	3,390	36,500
19	9,500	23,400	4,860	8,150	9,160	20,700	58,300	9,500	3,880	2,730	3,390	28,000
20	10,200	48,200	4,560	8,820	11,600	23,000	43,300	9,160	3,390	2,630	3,510	28,000
21	9,500	51,900	5,010	10,200	16,300	32,100	34,700	9,500	3,510	2,340	3,050	22,600
22	8,150	38,400	5,760	10,500	15,800	43,900	29,000	8,820	3,390	2,340	4,940	19,500
23	7,010	29,500	6,230	11,600	14,600	45,700	24,000	8,150	3,390	2,530	15,100	17,100
24	6,380	24,500	5,760	16,300	14,200	35,200	20,700	8,480	3,280	2,340	78,100	15,800
25	5,920	19,700	7,330	14,600	14,600	28,500	18,400	9,840	2,940	1,990	133,000	14,200
26	5,920	18,400	9,160	13,100	14,200	25,000	16,700	8,820	3,390	2,530	84,500	12,700
27	6,230	15,800	10,200	12,400	12,000	23,000	15,800	7,820	2,940	3,160	42,700	11,600
28	7,170	12,700	11,200	11,600	10,900	21,600	14,600	7,170	2,940	2,730	28,000	10,500
29	7,010	11,200	11,600	10,500		20,200	14,200	6,540	3,050	2,530	20,700	9,840
30	6,850	11,200	11,200	9,500		18,000	13,100	8,150	3,050	2,530	15,800	9,160
31	6,080		11,200	8,820		16,300		8,150		2,300	13,100	
storage												
Month		Observed			Corrected for			diversion				
		Maximum	Minimum	Mean	Mean		Per square mile	Run-off in inches				
October		54,300	1,320	9,680	9,920		1.56	1.80				
November		51,900	9,120	24,100	24,900		3.93	4.38				
December		11,600	4,280	7,760	7,410		1.17	1.35				
January		16,300	7,170	9,920	9,680		1.52	1.75				
February		16,300	5,920	10,200	10,200		1.61	1.68				
March		45,700	8,480	19,900	20,500		3.23	3.72				
April		58,300	13,100	28,700	29,500		4.65	5.19				
May		13,500	6,540	10,600	10,500		1.66	1.81				
June		8,840	2,940	5,110	4,730		.746	.83				
July		6,380	1,990	3,200	2,870		.453	.52				
August		133,000	2,140	16,000	16,900		2.67	3.08				
September		64,500	9,160	21,500	21,700		3.42	3.82				
The year		133,000	1,320	13,800	14,000		2.21	30.03				

## Delaware River at Trenton, N. J.

LOCATION.- Water-stage recorder 200 feet above Calhoun Street Bridge, Trenton, Mercer County, half a mile above mouth of Assumpink Creek. Zero of gage is 7.46 feet above mean sea level.

DRAINAGE AREA.- 6,800 square miles.

RECORDS AVAILABLE.- February 1913 to September 1933.

EXTREMES.- Maximum discharge during year, 144,000 second-feet Aug. 25 (gage height, 12.66 feet); minimum, 1,420 second-feet Oct. 5 (gage height, -0.28 foot). Flow in canals not included.

1913-33: Maximum discharge, about 160,000 second-feet Mar. 28, 29, 1913 (gage height, 13.3 feet); minimum, 1,220 second-feet Sept. 18, 19, 1932. Flow in canals not included.

REMARKS.- Records good. Part of monthly table corrected for diversions in Pennsylvania Canal, Trenton Power Race, and Delaware & Raritan Canal, and for effect of storage in reservoirs on Wallenpaupack Creek, Swinging Bridge and Toronto reservoirs on Mongaup River, and in Lake Hopatcong.

AVERAGE DISCHARGE.- Corrected for diversions and storage, 20 years (1913-33), 11,300 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,970	10,200	11,200	12,800	8,850	10,600	17,400	11,900	8,310	3,580	2,610	12,800
2	1,650	29,900	10,900	12,800	8,310	10,600	22,100	10,600	7,560	3,770	2,440	11,200
3	1,620	38,700	10,600	10,600	8,310	10,300	33,500	11,200	7,100	4,600	3,040	10,300
4	1,500	28,200	9,700	10,000	8,060	10,000	37,700	12,200	6,870	7,560	3,740	19,000
5	1,480	21,200	9,130	10,300	7,800	9,410	36,600	11,900	6,440	5,840	2,820	48,500
6	2,550	17,400	8,580	10,600	6,660	8,580	31,500	12,500	6,440	5,450	2,790	40,800
7	26,900	24,700	8,850	10,000	5,840	8,310	30,500	13,100	7,560	4,890	2,520	28,500
8	62,600	20,300	8,310	9,410	9,160	11,500	30,500	13,100	11,200	4,110	2,880	21,200
9	30,400	16,100	8,060	9,130	12,200	16,500	32,500	13,100	9,410	3,740	3,250	16,900
10	17,400	34,900	7,320	9,130	9,700	20,300	27,500	16,100	7,800	3,460	3,680	14,900
11	11,900	42,200	7,320	8,580	9,000	16,100	23,900	14,500	7,560	3,220	4,360	13,100
12	9,130	44,100	6,660	8,580	8,500	12,800	30,200	13,800	6,240	2,760	5,080	11,200
13	7,560	32,500	6,660	9,410	8,000	11,600	35,500	13,100	5,640	3,160	4,530	10,300
14	6,440	25,700	7,100	9,410	8,000	15,700	32,500	12,500	5,450	3,410	4,710	10,600
15	5,840	21,200	6,660	8,580	8,500	20,300	34,500	11,600	5,080	3,130	5,640	17,500
16	5,450	18,700	6,440	8,060	9,500	26,600	33,500	10,600	4,530	3,290	4,710	39,700
17	5,080	16,900	6,000	7,100	9,000	26,600	38,700	11,600	4,360	6,280	3,910	64,800
18	6,870	18,200	5,500	7,800	9,500	22,100	55,800	10,900	4,180	5,200	4,110	55,800
19	9,130	30,200	5,500	8,310	13,000	22,100	60,900	9,700	4,180	3,360	4,710	39,700
20	10,900	47,500	5,500	8,500	17,100	29,500	46,300	9,130	3,940	3,290	6,240	30,500
21	10,000	55,800	5,500	9,410	20,300	37,700	36,600	10,300	3,610	2,940	4,890	24,800
22	8,850	41,900	7,000	10,900	17,800	45,200	30,500	9,130	3,680	2,760	10,700	21,200
23	7,800	31,500	7,000	11,200	15,700	48,500	25,700	8,310	3,460	2,610	24,100	19,100
24	6,660	25,700	7,000	15,400	14,900	37,700	22,100	8,310	3,410	2,970	80,800	17,400
25	6,240	22,100	8,000	16,100	14,900	29,500	19,500	12,200	3,380	2,640	136,000	15,700
26	6,030	19,900	13,100	14,200	15,700	25,700	17,400	9,410	3,250	2,300	104,000	13,400
27	6,240	17,800	12,200	13,400	13,100	24,800	16,100	8,060	3,610	3,190	49,600	12,800
28	6,870	14,200	15,300	12,500	11,200	23,000	15,300	8,060	3,000	3,510	33,500	11,900
29	7,320	11,900	13,800	11,600		21,200	14,200	7,100	3,100	3,040	23,900	10,900
30	7,100	11,600	12,800	10,300		19,500	13,100	7,800	3,290	2,880	18,700	10,300
31	6,440		12,500	8,850		17,400		9,130	2,820	14,900		
Storage and Diversion												
Month		Observed			Corrected for							
		Maximum	Minimum	Mean	Mean	Per square mile	Run-off in inches					
October		62,600	1,480	9,870	10,200	1.50	1.73					
November		55,800	10,200	26,400	27,300	4.01	4.47					
December		15,300	5,500	8,720	8,550	1.26	1.45					
January		16,100	7,100	10,400	10,300	1.51	1.74					
February		20,300	5,840	11,000	11,100	1.63	1.70					
March		48,500	8,310	21,000	21,700	3.19	3.68					
April		60,900	13,100	30,100	30,900	4.54	5.06					
May		16,100	7,100	11,000	10,900	1.60	1.84					
June		11,200	3,000	5,450	5,130	.754	.84					
July		7,560	2,300	3,730	3,460	.509	.59					
August		136,000	2,440	18,700	19,500	2.87	3.31					
September		64,800	10,300	22,500	22,700	3.34	3.73					
The year		136,000	1,480	14,900	15,100	2.22	30.14					



## Lackawaxen River at West Hawley

LOCATION.- Chain gage at Riverside Bridge at West Hawley, Wayne County, half a mile above mouth of Middle Creek.

DRAINAGE AREA.- 212 square miles.

RECORDS AVAILABLE.- May 1921 to September 1933.

EXTREMES.- Maximum discharge during year, about 7,430 second-feet Aug. 24 (gage height, 11.0 feet from gage based on gage readings); minimum, 18 second-feet Oct. 3 (gage height, 0.81 foot).

1921-33: Maximum discharge, that of Aug. 24, 1933; minimum, 15 second-feet Sept. 2, 3, 1929 (gage height 0.74 foot).

REMARKS.- Records good except those for medium stages, which are fair, and those for extremely high stages, and those estimated for periods of ice effect, Dec. 12-24, Jan. 15, Feb. 10-17, which are poor. Regulation at low stages from operation of mills upstream.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	486	209	369	237	292	1,530	223	248	59	52	209
2	23	919	196	310	234	292	1,960	206	180	100	44	173
3	20	528	183	310	261	273	1,760	234	143	328	41	327
4	28	389	180	292	216	259	1,600	330	170	196	58	1,450
5	30	310	180	273	189	244	1,180	255	234	135	59	930
6	971	273	170	230	199	202	930	292	1,680	93	45	606
7	863	273	164	234	230	303	1,190	369	676	66	58	430
8	273	292	152	226	310	1,090	1,580	273	472	61	52	330
9	167	284	149	216	273	822	960	241	410	75	88	310
10	129	2,260	124	202	230	430	704	369	330	64	106	310
11	113	2,020	118	199	210	349	606	330	269	56	73	244
12	98	804	115	209	190	330	792	292	234	52	98	220
13	81	538	115	206	180	320	1,020	273	216	48	64	186
14	81	472	110	199	180	860	1,460	266	186	44	73	218
15	79	389	103	190	185	1,180	1,180	223	176	35	93	764
16	66	349	96	196	190	815	871	206	140	32	64	2,100
17	75	729	91	206	210	704	1,540	269	126	35	63	1,540
18	100	562	90	226	226	606	2,000	220	100	36	54	1,050
19	196	1,650	90	306	237	583	1,320	186	103	39	56	654
20	170	2,300	90	505	382	602	871	173	84	41	52	472
21	140	1,150	100	389	630	1,480	704	206	79	38	57	430
22	116	734	110	432	451	1,690	606	170	64	52	1,220	349
23	108	583	135	704	410	1,050	515	129	59	41	1,020	292
24	113	560	180	606	472	775	430	129	58	41	5,420	266
25	103	410	389	472	430	679	389	209	48	79	3,300	248
26	106	369	451	451	389	704	410	192	58	79	1,260	223
27	110	226	349	410	330	679	349	170	68	68	679	206
28	149	220	349	349	310	630	310	146	61	56	494	189
29	116	226	410	310		583	269	135	58	51	389	167
30	96	212	451	292		630	251	527	56	48	292	149
31	114	560	266			813		330		63	244	
Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches							
October	971	20	157	0.74	0.85							
November	2,300	212	684	3.22	3.59							
December	560	90	200	.944	1.09							
January	704	190	316	1.49	1.72							
February	630	180	285	1.34	1.40							
March	1,690	202	654	3.08	3.55							
April	2,000	251	976	4.60	5.13							
May	527	129	244	1.15	1.33							
June	1,680	48	226	1.07	1.19							
July	328	32	71.3	.336	.39							
August	5,420	41	505	2.38	2.74							
September	2,100	149	501	2.36	2.63							
The year	5,420	20	401	1.89	25.61							

## Wallenpaupack Creek at Wilsonville

LOCATION.- At hydroelectric plant of Pennsylvania Power & Light Co. with dam at Wilsonville, 1½ miles south of Hawley, Wayne County.

DRAINAGE AREA.- 227 square miles.

RECORDS AVAILABLE.- July 1908 to September 1933.

REMARKS.- Records good. Flow computed from output of generators. No discharge over spillway. Daily discharge not corrected for storage. No correction made for evaporation from Wallenpaupack Reservoir. Discharge measurements, records of power plant operations, and water surface elevations in reservoir and tailrace furnished by Pennsylvania Power & Light Co.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	327	635	23	514	429	104	657	184	273	532	58
2	74	103	565	218	386	450	17	743	243	0	227	46
3	181	40	351	450	353	355	431	710	369	48	298	0
4	256	65	114	629	277	35	578	789	0	0	30	40
5	509	75	708	546	13	103	546	513	451	169	173	812
6	95	0	370	567	413	668	882	436	479	193	0	737
7	229	229	526	288	617	845	597	67	407	246	604	379
8	340	130	279	0	547	602	136	671	257	138	601	352
9	0	658	719	643	517	515	13	413	256	0	273	441
10	19	479	449	611	399	445	316	500	259	537	453	0
11	220	10	188	613	420	196	667	432	47	850	36	329
12	71	67	820	626	68	0	798	454	644	661	0	539
13	172	65	841	624	285	356	489	156	461	73	0	496
14	178	530	678	359	460	436	371	0	165	183	104	550
15	113	534	704	0	359	406	135	311	247	183	134	960
16	18	455	598	639	358	430	40	298	317	0	440	1,070
17	219	719	485	734	270	137	323	90	424	556	225	1,420
18	377	819	145	585	414	69	766	341	55	280	528	977
19	187	680	451	601	17	157	965	384	291	226	87	798
20	205	404	553	443	482	533	896	159	173	150	0	566
21	234	1,020	594	200	521	529	749	14	253	749	422	823
22	17	1,000	187	39	149	160	292	519	483	47	281	694
23	44	1,030	184	513	265	262	56	594	327	0	303	411
24	391	315	72	497	215	331	397	675	748	801	278	0
25	387	596	0	842	165	202	461	386	0	774	78	676
26	330	466	0	611	0	0	421	365	313	281	0	566
27	356	63	113	528	377	573	351	228	381	383	0	578
28	222	691	86	234	439	614	432	0	362	291	50	550
29	72	733	78	28		585	250	274	376	411	159	179
30	0	563	570	653		504	50	0	337	172	20	19
31	595	299	627		453		284		777	47		
Month	Observed			Corrected for Storage								
	Maximum	Minimum	Mean	Mean	Per square mile	Run-off in inches						
October	595	0	198	339	1.49	1.72						
November	1,030	0	429	880	3.88	4.33						
December	841	0	396	189	.833	.96						
January	842	0	451	217	.956	1.10						
February	617	0	332	306	1.35	1.41						
March	845	0	367	722	3.18	3.67						
April	965	13	418	927	4.08	4.55						
May	769	0	369	227	1.00	1.15						
June	748	0	310	41.6	-.004	-.21						
July	850	0	305	812	3.58	4.13						
August	604	0	206	656	2.89	3.22						
September	1,420	0	502									
The year	1,420	0	357	442	1.95	26.45						



## Bushkill Creek at Shoemakers

LOCATION.- Chain gage at highway bridge three-fourths mile northwest of Shoemakers, Monroe County, and 2 miles southwest of Bushkill.

DRAINAGE AREA.- 115 square miles.

RECORDS AVAILABLE.- September 1908 to September 1933.

EXTREMES.- Maximum gage height during year (estimated), 5.7 feet Sept. 16 (discharge not determined); minimum discharge, 9 second-feet Oct. 4 (gage height, 1.00 foot).  
1908-33: Maximum gage height (estimated), 7.2 feet July 24, 1920 (discharge not determined); minimum discharge, 4 second-feet Sept. 21, 26, 1932 (gage height, 0.90 foot).

REMARKS.- Records good except those above 700 second-feet and those estimated for periods of ice effect, Nov. 28 to Dec. 2, Dec. 11-28, Jan. 13-15, Feb. 5, 6, 10-19, Mar. 11, 12, which are poor. Regulation at low stages from operation of mills upstream.

AVERAGE DISCHARGE.- 21 years (1908-16, 1920-33), 236 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	623	260	216	144	269	424	216	121	40	14	233
2	11	1,080	245	179	174	250	478	200	104	42	14	185
3	11	835	233	200	168	250	478	288	91	77	12	226
4	9.0	646	233	177	149	233	451	288	93	66	15	1,060
5	32	561	216	177	135	216	424	233	88	53	15	835
6	1,200	506	200	165	135	185	399	250	136	42	14	561
7	835	589	200	163	185	200	506	308	147	33	12	424
8	451	506	200	152	269	426	478	269	118	31	12	329
9	329	451	177	152	216	424	399	250	99	27	12	269
10	250	1,070	160	157	180	329	399	288	88	25	12	250
11	200	1,080	155	152	165	260	352	269	73	23	39	200
12	168	895	160	200	145	250	589	233	63	21	38	179
13	152	715	145	160	135	269	775	216	59	21	28	160
14	134	618	130	145	130	399	646	216	55	21	75	237
15	118	533	115	138	130	492	618	200	51	19	56	1,130
16	111	478	105	139	130	424	561	185	52	25	38	1,890
17	136	533	97	147	135	374	955	216	53	32	29	1,800
18	331	478	94	163	140	352	1,210	185	46	26	29	1,280
19	374	894	94	182	180	352	1,020	171	42	23	25	955
20	308	1,210	95	185	347	436	835	154	39	21	25	775
21	269	955	105	177	424	805	646	185	42	23	27	618
22	233	775	120	233	329	835	589	163	42	23	190	533
23	185	646	160	288	329	775	478	149	38	21	408	451
24	185	561	240	250	374	646	451	144	34	15	1,780	374
25	165	506	370	216	374	561	399	160	34	20	1,670	329
26	160	478	290	216	329	561	399	149	34	34	1,150	288
27	250	269	260	216	288	533	352	134	39	26	775	250
28	250	270	290	200	250	506	308	124	40	22	561	233
29	216	275	269	182		506	269	114	37	19	424	216
30	185	270	233	154		424	250	154	43	17	308	185
31	174		250	163		399		139		15	250	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October					1,200	9.0	240	2.09		2.41		
November					1,210	269	643	5.59		6.24		
December					370	94	190	1.65		1.90		
January					288	138	182	1.58		1.82		
February					424	130	217	1.89		1.97		
March					835	185	417	3.63		4.18		
April					1,210	250	538	4.68		5.22		
May					308	114	202	1.75		2.02		
June					147	34	66.7	.580		.65		
July					77	15	29.1	.253		.29		
August					1,780	12	260	2.26		2.61		
September					1,990	160	548	4.77		5.32		
The year					1,890	9.0	293	2.55		34.63		

## McMichaels Creek at Stroudsburg

LOCATION.- Chain gage at railroad bridge at Wilkes-Barre and Eastern Railroad car shops, three-quarters of a mile southwest of Stroudsburg, Monroe County.

DRAINAGE AREA.- 62 square miles.

RECORDS AVAILABLE.- August 1911 to September 1933.

EXTREMES.- Maximum gage height during year (estimated), 9.4 feet Sept. 4 (discharge not determined); minimum discharge, 15 second-feet Oct. 2 (gage height, 2.46 feet).

1911-33: Maximum gage height, that of Sept. 4, 1933; minimum discharge, 7.2 second-feet Nov. 30, 1930 (gage height, 2.34 feet).

REMARKS.- Records good except those above 300 second-feet and those estimated for periods of ice effect, Dec. 12-24, Feb. 5-7, 10-19, which are poor. Regulation at low stages from operation of power plants upstream.

AVERAGE DISCHARGE.- 20 years (1911-18, 1920-33), 120 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	881	131	133	92	131	200	131	86	46	26	144
2	17	693	123	112	98	127	200	127	76	43	23	129
3	18	278	127	108	94	118	200	176	72	83	27	124
4	20	212	118	108	83	112	200	127	69	48	30	2,030
5	28	188	114	110	80	104	174	112	67	42	27	983
6	438	164	102	96	75	96	162	140	92	38	23	545
7	137	278	102	94	105	109	264	155	69	32	26	381
8	67	188	98	90	220	324	212	120	69	32	23	306
9	51	253	88	94	123	188	200	118	62	33	23	264
10	41	1,070	83	94	100	158	200	176	90	34	32	225
11	40	543	83	86	95	144	176	118	62	32	124	188
12	34	397	83	144	90	140	408	114	59	33	32	176
13	26	306	81	94	90	152	387	114	53	30	32	158
14	27	251	77	86	85	299	335	114	51	29	92	185
15	30	225	70	86	90	335	306	110	51	29	44	710
16	26	200	61	81	90	278	292	110	51	41	31	1,050
17	48	225	50	85	90	264	852	125	48	46	30	1,140
18	188	176	50	86	95	238	733	102	43	33	41	671
19	104	624	45	106	100	251	543	94	43	32	36	467
20	90	650	50	96	306	404	397	90	41	30	30	397
21	76	449	55	83	251	671	335	131	43	29	33	306
22	64	350	65	112	200	543	306	102	43	32	390	278
23	62	292	75	116	200	431	264	94	39	31	423	238
24	67	251	95	100	200	350	238	96	36	31	2,060	251
25	59	225	176	90	176	306	225	98	40	29	1,060	200
26	55	212	135	123	174	292	212	90	38	34	487	176
27	123	176	100	118	144	264	188	81	41	30	336	167
28	83	168	153	112	135	278	171	79	43	29	264	153
29	76	151	140	102		225	151	76	41	27	212	144
30	66	135	135	102		188	144	153	46	26	176	127
31	69		149	94		176		108		25	164	
Month					Maximum	Minimum	Mean	Per square mile.	Run-off in inches			
October					438	17	72.5	1.17	1.35			
November					1,070	135	340	5.48	6.11			
December					176	45	97.2	1.57	1.81			
January					144	81	101	1.63	1.88			
February					306	75	131	2.11	2.20			
March					671	96	248	4.00	4.61			
April					852	144	289	4.66	5.20			
May					176	76	116	1.87	2.16			
June					92	36	55.5	.895	1.00			
July					83	25	35.1	.566	.65			
August					2,060	23	205	3.31	3.82			
September					2,030	124	430	6.94	7.74			
The year					2,060	17	176	2.84	38.53			



## Lehigh River at Tannery

LOCATION.- Water-stage recorder 600 feet above highway bridge at Tannery, Carbon County.  
Zero of gage is 1,041.98 feet above mean sea level.

DRAINAGE AREA.- 322 square miles.

RECORDS AVAILABLE.- June 1914 to September 1933.

RECORDS AVAILABLE.- June 1914 to September 1933.

1914-33: Maximum gage height, about 15.0 feet Nov. 18, 1926, at a site 600 feet downstream (discharge not determined); minimum discharge, 32 second-feet Sept. 25, 1932 (gage height, 1.42 feet).

REMARKS.- Records poor. Discharge estimated for periods of ice effect, Nov. 28, 29, Dec. 15-24, Feb. 6, 7, 10-20, and for periods during which intake was plugged, May 9-20, May 24 to July 2. Slight regulation from operation of power plants upstream. Water-stage recorder, well, and shelter furnished by United States Engineer Office, Philadelphia, Pa.

AVERAGE DISCHARGE.- 14 years (1914-15, 1919-26, 1927-33), 685 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Daily and Monthly Discharge.												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	75	1,620	546	553	377	689	1,050	719	450	400	97	566
2	75	3,190	521	527	388	647	1,060	689		350	87	478
3	73	1,820	503	484	399	612	1,100	675		1,020	95	421
4	69	1,250	496	438	383	579	1,120	675		779	97	1,860
5	95	1,000	478	426	372	559	1,150	682		496	90	1,980
6	1,760	850	455	388	365	540	1,170	689	450	383	80	1,340
7	2,590	811	438	383	380	527	1,180	734		313	92	1,030
8	1,160	756	432	357	584	572	1,220	772		249	80	803
9	722	719	394	357	779	859	1,240			201	75	675
10	503	1,990	357	357	660	968	1,240			164	75	612
11	383	2,680	352	347	590	950	1,250	710		141	208	503
12	313	1,840	399	509	520	942	1,260			131	168	438
13	262	1,350	447	509	480	916	1,290			108	141	430
14	245	1,070	388	534	460	916	1,410			108	192	586
15	216	900	350	438	510	1,410	1,540			111	179	1,820
16	186	811	340	377	485	1,490	1,450	650		126	154	9,670
17	201	1,320	320	388	485	1,210	2,270			201	138	7,640
18	424	1,200	305	410	490	1,020	3,980			175	131	3,630
19	599	1,790	295	449	510	976	2,920			147	108	2,140
20	553	2,920	290	521	530	1,010	2,040			131	108	1,480
21	455	2,170	290	484	826	1,500	1,490	250		119	119	1,140
22	372	1,540	300	521	875	2,100	1,240		592	110	438	1,010
23	317	1,190	310	787	834	1,600	1,080		633	116	2,030	875
24	298	1,020	350	734	811	1,280	968			140	20,700	834
25	275	900	559	633	811	1,060	883			182	10,100	734
26	258	834	704	579	903	1,050	850	650		193	3,660	647
27	472	668	612	546	764	1,040	850			157	2,280	619
28	527	640	669	515	734	1,040	834			128	1,360	654
29	455	630	626	461		1,040	818			100	985	654
30	388	619	546	493		1,030	756			100	756	612
31	337		572	426		1,040				114	647	
Month						Maximum	Minimum	Mean		Per square mile	Run-off in inches	
October						2,590	69	473		1.47	1.70	
November						3,190	619	1,340		4.16	4.64	
December						704	290	440		1.37	1.58	
January						787	347	482		1.50	1.73	
February						875	365	579		1.80	1.87	
March						2,100	527	1,010		3.14	3.62	
April						3,980	756	1,360		4.22	4.71	
May								684		2.12	2.44	
June								350		1.09	1.22	
July						1,020	100	232		.720	.83	
August						20,700	75	1,470		4.56	5.26	
September						9,670	421	1,530		4.75	5.30	
The year						20,700	69	826		2.57	34.90	

## DELAWARE BASIN

Lehigh River at Bethlehem

LOCATION.- Water-stage recorder 1,500 feet above Minsi Trail Bridge at Bethlehem, Northampton County, and 2,000 feet below Monocacy Creek.

DRAINAGE AREA.- 1,280 square miles.

RECORDS AVAILABLE.- October 1928 to September 1932. September 1902 to February 1905; April 1909 to September 1928 at New Street Bridge 800 feet above mouth of Monocacy Creek.

EXTREMES.- Maximum gage height during year, 18.70 feet Aug. 24 (discharge not determined); minimum discharge, 272 second-feet Oct. 3 (gage height, 1.56 feet).

1902-5, 1909-33: Maximum gage height, that of Aug. 24, 1933; minimum discharge, 160 second-feet Oct. 15, 1910 (gage height, 1.33 feet).

Extremes do not include flow in Lehigh Canal.

REMARKS.- Records good except those estimated for periods of ice effect, Dec. 18-21, Feb. 11-19, and for periods of missing gage-height record, Apr. 8-14, Sept. 15, 16, which are fair and those above 20,000 second-feet, which are poor. Daily and monthly records include flow in Lehigh Canal. Water-stage recorder, well, and shelter, furnished by United States Engineer Office, Philadelphia, Pa.

Daily and monthly discharge, in second-feet, 1932-33

Daily and monthly discharge, in seconds.												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	346	4,960	2,230	2,440	1,730	2,440	3,060	2,560	2,670	1,280	669	3,080
2	326	11,400	2,140	2,100	1,720	2,310	3,390	2,420	2,370	1,190	701	2,830
3	356	6,110	2,040	2,100	1,660	2,240	3,520	2,630	2,170	3,570	672	2,810
4	382	4,530	1,860	1,990	1,630	2,080	3,480	2,770	1,990	3,170	835	20,600
5	398	3,420	1,930	1,970	1,670	1,970	3,460	2,390	1,940	2,160	732	12,500
6	3,560	2,740	1,840	1,880	1,240	1,650	3,300	2,450	1,950	1,650	640	7,950
7	5,770	3,650	1,760	1,750	1,610	1,870	3,390	3,110	1,940	1,370	620	5,850
8	2,880	3,350	1,710	1,700	3,100	3,040	3,500	2,940	2,060	1,230	611	4,450
9	1,680	2,960	1,640	1,720	2,950	3,500	3,800	3,040	1,880	1,130	612	3,460
10	1,440	8,100	1,560	1,720	2,810	2,950	3,700	3,640	2,230	1,090	687	2,870
11	1,160	9,180	1,470	1,600	1,900	2,230	3,800	3,480	1,880	1,010	1,540	2,440
12	961	6,640	1,480	1,830	1,750	2,560	4,000	3,190	1,670	931	1,220	1,950
13	934	5,140	1,590	1,970	1,600	2,480	4,200	3,140	1,480	883	970	1,580
14	774	4,200	1,560	1,650	1,650	3,330	4,600	3,130	1,290	856	2,040	1,460
15	720	3,530	1,450	1,700	2,100	5,270	6,510	2,900	1,280	820	1,430	10,000
16	708	3,050	1,030	1,600	2,000	5,560	5,410	2,800	1,240	1,100	1,090	40,000
17	721	3,440	988	1,600	2,000	4,850	11,200	3,070	1,240	1,710	971	17,300
18	1,520	3,600	935	1,600	2,000	4,190	17,900	2,720	1,180	1,130	947	10,400
19	2,100	6,400	916	1,750	2,100	4,320	11,300	2,600	1,120	948	921	7,610
20	1,870	11,800	956	1,880	3,300	5,560	8,300	2,420	1,130	874	896	6,000
21	1,660	8,130	1,040	1,730	4,450	8,800	6,630	2,760	1,050	825	981	4,850
22	1,510	6,010	1,190	1,000	3,690	10,200	5,560	2,620	1,040	767	3,090	3,940
23	1,300	4,730	1,260	2,350	3,410	7,440	4,720	2,330	992	756	7,500	3,320
24	1,190	4,200	1,290	2,200	3,300	5,850	4,320	2,710	915	754	74,900	3,120
25	1,120	3,650	1,950	2,010	3,120	4,850	3,910	3,260	928	846	33,200	2,610
26	1,040	3,490	2,460	2,220	3,160	4,450	3,690	2,630	941	996	12,800	2,370
27	1,230	3,000	2,200	2,200	2,710	4,190	3,480	2,330	955	870	8,650	2,010
28	1,840	2,510	2,650	2,110	2,460	3,960	3,120	2,240	968	797	6,470	1,720
29	1,600	2,400	2,690	1,970		3,520	2,910	2,210	1,050	726	4,990	1,530
30	1,480	2,360	2,540	1,770		3,210	2,670	3,410	1,040	682	3,940	1,400
31	1,390		2,560	1,890		2,990		3,040		689	3,460	
Month						Maximum	Minimum	Mean	Per square mile		Run-off in inches	
October.....						5,770	328	1,420	1.11		1.23	
November.....						11,800	2,360	4,950	3.87		4.32	
December.....						2,690	916	1,710	1.34		1.54	
January.....						2,440	1,600	1,900	1.49		1.71	
February.....						4,450	1,240	2,360	1.84		1.92	
March.....						10,200	1,850	4,010	3.13		3.61	
April.....						17,900	2,670	5,080	3.97		4.43	
May.....						3,640	2,210	2,800	2.19		2.52	
June.....						2,870	915	1,480	1.16		1.29	
July.....						3,570	682	1,190	.93		1.07	
August.....						74,900	611	5,770	4.51		5.20	
September.....						40,000	1,400	6,410	5.01		5.59	
The year.....						74,900	326	3,250	2.54		34.48	







## Schuylkill River at Norristown

LOCATION.- Water-stage recorder at Schuylkill Navigation Company Dam at Norristown, Montgomery County.

DRAINAGE AREA.- 1,760 square miles.

RECORDS AVAILABLE.- August 1927 to June 1933 (discontinued).

EXTREMES.- Maximum discharge during period (estimated), 41,000 second-feet Mar. 22 (gage height, 10.2 feet); minimum, 151 second-feet Oct. 4 (gage height, -0.11 foot).

1927-33: Maximum discharge, 42,000 second-feet July 15, 1931 (gage height, 10.40 feet); minimum (estimated), 98 second-feet Jan. 30, 1929 (affected by ice).

REMARKS.- Records fair. Discharge estimated for period of ice effect, Dec. 18-24, and for period of missing gage-height record, Mar. 24-28. Records based on twice daily gage readings for periods during which recorder failed to operate properly, Dec. 16-24, Jan. 1, Feb. 6, 10-19, Mar. 21-23, Apr. 13-15, Apr. 18 to May 24. Some regulation at low stages from operation of mills upstream. Water diverted through Schuylkill Navigation Company Canal not included in records except in part of monthly table. Water-stage recorder, well, and shelter, and services of observer paid by Pennsylvania Department of Health.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	320	7,540	1,810	3,110	1,660	2,160	3,380	2,260	3,600			
2	266	14,700	1,810	2,240	1,620	2,100	4,240	2,180	2,860			
3	218	7,360	1,700	2,060	1,600	2,000	3,480	2,300	2,470			
4	226	4,020	1,660	2,060	1,450	1,850	3,830	2,700	2,670			
5	324	2,930	1,580	2,060	1,380	1,720	4,240	2,220	2,300			
6	3,130	2,500	1,490	2,000	1,230	1,580	3,160	2,220	2,060			
7	6,260	16,000	1,450	1,870	1,450	1,600	6,610	3,020	2,080			
8	2,520	7,000	1,360	1,700	4,080	4,380	6,270	2,760				
9	1,600	3,600	1,310	2,160	3,910	3,110	5,160	3,860				
10	1,200	16,600	1,270	3,230	2,520	2,260	4,560	9,320				
11	984	7,430	1,250	2,180	2,000	1,810	3,860	7,140				
12	851	5,190	1,340	2,000	2,540	1,790	16,400	5,460				
13	747	3,600	1,620	2,000	2,200	2,020	13,100	5,160				
14	666	2,950	1,620	1,790	1,890	6,750	8,050	4,000				
15	646	2,560	1,408	1,640	2,370	6,780	6,440	3,480				
16	615	2,280	855	1,620	2,760	6,100	5,310	3,350				
17	702	2,500	720	1,600	2,240	5,000	17,900	5,680				
18	4,890	2,790	700	1,560	2,160	4,130	27,100	3,730				
19	3,480	11,100	660	1,560	2,740	6,470	17,200	3,060				
20	2,390	15,500	640	1,720	9,280	15,900	11,900	2,760				
21	1,950	9,040	720	1,580	8,240	28,900	8,050	3,860				
22	1,540	6,470	900	1,410	5,370	25,700	6,780	3,040				
23	1,310	4,410	1,100	1,680	4,000	11,600	5,460	2,520				
24	1,160	3,350	1,400	1,720	3,480	8,000	4,560	3,330				
25	1,050	2,970	3,020	1,530	3,060	6,500	3,860	5,370				
26	984	2,950	5,090	2,180	3,300	5,600	3,350	3,450				
27	1,140	2,720	3,400	2,370	2,740	5,300	3,130	2,520				
28	1,790	2,180	8,390	2,140	2,280	4,500	2,740	3,630				
29	1,430	1,960	5,280	2,080		3,730	2,580	2,720				
30	1,190	1,790	3,480	1,890		3,180	2,430	7,250				
31	1,050		3,480	1,750		2,900		5,720				

Month	Observed			Diversions (Mean)	Corrected for diversion		
	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October.....	6,260	218	1,500	87	1,590	0.903	1.04
November.....	16,600	1,790	5,870	156	6,030	3.43	3.83
December.....	8,390	640	2,020	132	2,150	1.22	1.41
January.....	3,230	1,410	1,950	106	2,060	1.17	1.35
February.....	9,280	1,220	2,980	104	3,080	1.76	1.82
March.....	28,900	1,580	5,980	107	6,090	3.46	3.99
April.....	27,100	2,430	7,140	118	7,260	4.12	4.60
May.....	9,320	2,180	3,870	158	4,030	2.29	2.64
June.....1-7.....	3,600	2,060	2,580	122	2,700	1.53	.40
July.....							
August.....							
September.....							
The year.....							

## Schuylkill River at Philadelphia

LOCATION.- Water-stage recorder just above Fairmount Dam at Philadelphia, Philadelphia County. Zero of gage is at city of Philadelphia datum, or 5.23 feet above mean sea level Sandy Hook datum.

DRAINAGE AREA.- 1,900 square miles.

RECORDS AVAILABLE.- January 1903 to December 1912; September 1931 to September 1933.

EXTREMES.- Maximum discharge during year ending Sept. 30, 1932, 33,300 second-feet Mar. 28 (gage height, 10.27 feet); no flow over dam Sept. 11.

Maximum gage height during year ending Sept. 30, 1933, 14.70 feet Aug. 24 (discharge not determined); minimum, 1 second-foot Oct. 3 (gage height, 5.42 feet).

1903-12, 1931-33: Maximum gage height, that of Aug. 24, 1933; no flow over dam at times.

Maximum stage known, about 17.0 feet Oct. 4, 1869 (discharge not determined).

REMARKS.- Records fair except those based on staff gage readings, May 28 to Aug. 24, 1932, July 4, Aug. 24-28, 1933, which are poor. Regulation from storage reservoirs upstream. Water supply for city of Philadelphia diverted above station not included in records except in part of monthly table. Water-stage recorder, well, shelter, and services of observer furnished by city of Philadelphia.

Daily discharge in second-feet, 1930-31

Sept. 25 200; Sept. 26 377; Sept. 27 340;  
Sept. 28 342; Sept. 29 333; Sept. 30 255;

Daily and monthly discharge, in second-feet, 1931-32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	258	385	316	556	1,560	1,370	10,200	1,440	967	967	162	186
2	260	307	391	2,830	1,070	924	8,620	4,550	713	570	175	291
3	259	278	469	4,250	1,150	929	6,940	3,490	775	775	188	227
4	206	243	341	2,730	1,380	808	5,700	2,260	744	495	206	211
5	278	222	442	2,020	3,700	900	4,660	1,920	744	545	162	172
6	185	176	735	2,390	3,220	1,120	4,100	1,730	744	620	148	145
7	232	224	536	12,100	2,420	2,780	3,600	1,730	899	620	261	186
8	270	156	220	7,330	2,160	1,790	3,270	2,020	545	775	1,230	175
9	1,120	202	480	7,520	2,110	1,240	3,050	2,880	470	713	1,300	99
10	1,330	200	452	6,390	1,830	1,110	4,170	3,990	545	395	545	76
11	604	254	642	4,660	1,690	1,030	8,300	3,490	495	395	570	55
12	350	240	886	3,600	1,800	1,220	5,720	3,710	545	334	224	80
13	352	173	690	3,050	1,830	1,130	4,440	5,410	651	352	261	90
14	276	186	716	2,730	1,560	1,120	3,760	4,550	899	334	188	45
15	252	166	744	2,570	1,300	772	3,320	3,490	1,000	243	135	117
16	376	216	732	2,160	1,170	735	3,000	3,050	1,040	188	122	96
17	622	201	577	1,830	1,190	1,160	2,730	2,630	3,660	188	188	95
18	491	182	467	1,690	1,350	1,960	2,470	2,310	4,440	243	243	50
19	328	226	480	1,600	1,470	2,160	2,260	1,970	2,110	206	744	110
20	278	259	416	1,350	1,190	2,020	2,110	1,730	1,430	112	470	38
21	297	214	409	1,200	1,050	2,210	1,920	1,640	1,080	420	445	86
22	269	273	491	1,150	930	2,620	1,830	1,600	967	188	261	88
23	228	170	512	1,120	967	5,700	1,690	1,560	1,040	1,470	188	89
24	267	195	763	1,140	900	3,930	1,470	1,390	744	1,000	188	74
25	252	221	803	1,430	784	3,160	1,390	1,080	620	682	180	52
26	181	195	528	1,200	806	2,890	1,430	967	651	334	152	63
27	208	142	464	1,250	811	2,840	1,600	930	1,000	224	201	88
28	192	269	282	1,390	827	19,600	1,600	1,390	1,520	775	287	146
29	398	241	394	1,300	1,070	18,200	1,340	1,390	1,520	445	364	132
30	416	284	352	1,200		10,500	1,140	1,040	1,040	243	272	149
31	440		316	1,550		7,420		899		162	193	
Month		Observed			Diversions		Corrected for diversion					
		Maximum	Minimum	Mean	(Mean)	Mean	Per square mile	Run-off in inches				
October.....		1,330	181	370	232	602	0.317	0.37				
November.....		385	142	223	223	446	.235	.26				
December.....		886	220	518	221	739	.389	.45				
January.....		12,100	556	2,820	210	3,030	1.59	1.83				
February.....		3,700	784	1,490	210	1,700	.895	.97				
March.....		19,600	735	3,400	217	3,620	1.91	2.20				
April.....		10,200	1,140	3,590	198	3,790	1.99	2.22				
May.....		5,410	899	2,330	226	2,560	1.35	1.56				
June.....		4,440	470	1,120	238	1,360	.716	.80				
July.....		1,470	112	484	246	730	.384	.44				
August.....		1,300	122	331	249	580	.305	.35				
September.....		291	38	117	234	351	.185	.21				
The year.....		19,600	38	1,400	226	1,635	.255	11.06				



## Schuylkill River at Philadelphia

(Continued)

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.																																																																																																																							
1	187	6,170	1,870	4,040	1,870	2,570	4,070	2,760	4,720	1,350	498	3,820																																																																																																																							
2	110	14,800	1,870	3,050	1,830	2,570	5,320	2,630	3,650	1,280	426	3,490																																																																																																																							
3	102	7,720	1,780	2,570	1,780	2,370	4,600	2,630	3,110	2,800	465	3,110																																																																																																																							
4	52	5,040	1,690	2,470	1,690	2,210	4,900	3,490	3,180	8,480	2,510	3,730																																																																																																																							
5	229	3,760	1,600	2,470	1,470	1,970	5,330	2,790	2,890	4,080	1,450	11,900																																																																																																																							
6	2,420	3,030	1,430	2,340	1,160	1,780	4,360	2,660	2,540	2,500	1,020	7,180																																																																																																																							
7	7,260	13,200	1,430	2,160	1,310	1,780	6,380	3,760	2,520	1,800	538	5,360																																																																																																																							
8	3,270	7,950	1,390	1,920	3,840	4,760	7,210	3,600	2,340	1,520	515	4,270																																																																																																																							
9	1,780	4,610	1,150	2,240	5,040	4,380	5,880	4,760	2,420	1,300	454	3,660																																																																																																																							
10	1,210	17,000	1,230	4,170	2,720	3,050	5,500	8,420	2,040	1,080	468	3,160																																																																																																																							
11	812	7,900	1,230	2,790	2,040	2,260	4,980	7,680	2,900	1,240	928	3,000																																																																																																																							
12	682	5,740	1,240	23,70	2,520	2,060	13,500	6,080	2,270	906	3,000	2,680																																																																																																																							
13	620	4,550	1,640	2,260	2,160	2,340	15,000	5,760	1,940	789	1,640	2,470																																																																																																																							
14	516	3,710	1,730	2,020	2,070	6,510	8,860	5,160	1,580	810	2,470	3,800																																																																																																																							
15	447	3,110	1,430	1,690	2,630	6,880	7,330	4,520	1,450	698	4,200	6,120																																																																																																																							
16	514	2,680	791	1,730	2,780	6,880	6,380	4,210	1,220	1,010	2,270	11,600																																																																																																																							
17	708	2,780	747	1,690	2,680	5,700	14,200	5,990	1,220	10,100	1,600	9,450																																																																																																																							
18	4,930	3,500	493	1,640	2,370	5,100	23,300	4,840	1,260	5,190	1,390	6,940																																																																																																																							
19	4,500	9,290	654	1,640	3,050	6,020	15,200	3,840	1,080	2,200	1,100	5,300																																																																																																																							
20	2,950	16,900	824	1,830	7,740	14,900	10,500	3,500	1,000	1,520	1,500	4,320																																																																																																																							
21	2,070	9,250	967	1,730	9,500	24,100	8,200	4,520	880	1,200	1,560	3,820																																																																																																																							
22	1,600	6,720	967	1,520	6,140	16,800	7,030	3,990	876	1,020	8,540	3,320																																																																																																																							
23	1,500	5,240	1,080	1,620	5,010	11,400	6,120	3,030	828	866	28,000	3,110																																																																																																																							
24	1,000	4,270	1,260	1,870	4,490	8,800	5,360	3,600	742	867	73,900	2,680																																																																																																																							
25	882	3,760	2,810	1,640	3,930	7,030	4,800	6,490	668	816	53,600	2,780																																																																																																																							
26	870	3,540	5,930	2,380	4,210	6,320	4,460	4,830	890	1,070	21,500	2,420																																																																																																																							
27	956	3,460	4,120	2,950	3,660	6,640	4,100	3,360	1,020	1,140	10,400	2,110																																																																																																																							
28	1,670	2,570	8,160	2,630	2,890	5,590	3,650	4,460	813	831	7,310	2,210																																																																																																																							
29	1,620	2,110	6,340	2,620		4,920	3,320	3,680	794	728	5,530	2,420																																																																																																																							
30	1,160	1,920	4,610	2,210		4,270	3,000	6,330	890	660	4,780	2,370																																																																																																																							
31	930		4,490	2,020		3,880		6,770		558	3,820																																																																																																																								
<table><tr><th rowspan="2">Month</th><th colspan="3">Observed</th><th>Diversion</th><th colspan="3">Corrected for diversion</th></tr><tr><th>Maximum</th><th>Minimum</th><th>Mean</th><th>(Mean)</th><th>Mean</th><th>Per square mile</th><th>Run-off in inches</th></tr><tr><td>October</td><td>7,260</td><td>52</td><td>1,530</td><td>224</td><td>1,750</td><td>0.921</td><td>1.06</td></tr><tr><td>November</td><td>17,000</td><td>1,920</td><td>6,200</td><td>221</td><td>6,420</td><td>3.38</td><td>3.77</td></tr><tr><td>December</td><td>8,160</td><td>493</td><td>2,160</td><td>220</td><td>2,380</td><td>1.25</td><td>1.44</td></tr><tr><td>January</td><td>4,170</td><td>1,520</td><td>2,260</td><td>209</td><td>2,470</td><td>1.30</td><td>1.50</td></tr><tr><td>February</td><td>9,500</td><td>1,160</td><td>3,310</td><td>217</td><td>3,530</td><td>1.86</td><td>1.94</td></tr><tr><td>March</td><td>24,100</td><td>1,780</td><td>5,990</td><td>207</td><td>6,200</td><td>3.26</td><td>3.76</td></tr><tr><td>April</td><td>23,300</td><td>3,000</td><td>7,430</td><td>203</td><td>7,630</td><td>4.02</td><td>4.48</td></tr><tr><td>May</td><td>8,420</td><td>2,630</td><td>4,520</td><td>221</td><td>4,740</td><td>2.49</td><td>2.87</td></tr><tr><td>June</td><td>4,720</td><td>668</td><td>1,790</td><td>255</td><td>2,040</td><td>1.07</td><td>1.19</td></tr><tr><td>July</td><td>10,100</td><td>558</td><td>1,950</td><td>246</td><td>2,200</td><td>1.16</td><td>1.34</td></tr><tr><td>August</td><td>73,900</td><td>426</td><td>7,980</td><td>255</td><td>8,240</td><td>4.34</td><td>5.00</td></tr><tr><td>September</td><td>11,900</td><td>2,110</td><td>4,420</td><td>243</td><td>4,660</td><td>2.45</td><td>2.73</td></tr><tr><td>The year</td><td>73,900</td><td>52</td><td>4,130</td><td>226</td><td>4,360</td><td>2.29</td><td>31.08</td></tr></table>													Month	Observed			Diversion	Corrected for diversion			Maximum	Minimum	Mean	(Mean)	Mean	Per square mile	Run-off in inches	October	7,260	52	1,530	224	1,750	0.921	1.06	November	17,000	1,920	6,200	221	6,420	3.38	3.77	December	8,160	493	2,160	220	2,380	1.25	1.44	January	4,170	1,520	2,260	209	2,470	1.30	1.50	February	9,500	1,160	3,310	217	3,530	1.86	1.94	March	24,100	1,780	5,990	207	6,200	3.26	3.76	April	23,300	3,000	7,430	203	7,630	4.02	4.48	May	8,420	2,630	4,520	221	4,740	2.49	2.87	June	4,720	668	1,790	255	2,040	1.07	1.19	July	10,100	558	1,950	246	2,200	1.16	1.34	August	73,900	426	7,980	255	8,240	4.34	5.00	September	11,900	2,110	4,420	243	4,660	2.45	2.73	The year	73,900	52	4,130	226	4,360	2.29	31.08
Month	Observed			Diversion	Corrected for diversion																																																																																																																														
	Maximum	Minimum	Mean	(Mean)	Mean	Per square mile	Run-off in inches																																																																																																																												
October	7,260	52	1,530	224	1,750	0.921	1.06																																																																																																																												
November	17,000	1,920	6,200	221	6,420	3.38	3.77																																																																																																																												
December	8,160	493	2,160	220	2,380	1.25	1.44																																																																																																																												
January	4,170	1,520	2,260	209	2,470	1.30	1.50																																																																																																																												
February	9,500	1,160	3,310	217	3,530	1.86	1.94																																																																																																																												
March	24,100	1,780	5,990	207	6,200	3.26	3.76																																																																																																																												
April	23,300	3,000	7,430	203	7,630	4.02	4.48																																																																																																																												
May	8,420	2,630	4,520	221	4,740	2.49	2.87																																																																																																																												
June	4,720	668	1,790	255	2,040	1.07	1.19																																																																																																																												
July	10,100	558	1,950	246	2,200	1.16	1.34																																																																																																																												
August	73,900	426	7,980	255	8,240	4.34	5.00																																																																																																																												
September	11,900	2,110	4,420	243	4,660	2.45	2.73																																																																																																																												
The year	73,900	52	4,130	226	4,360	2.29	31.08																																																																																																																												

## Little Schuylkill River at Tamaqua

LOCATION.- Water-stage recorder at Panther Valley Water Co. pumping plant, 0.6 mile above Tamaqua, Schuylkill County, and 0.8 mile above mouth of Panther Creek.

DRAINAGE AREA.- 44 square miles.

RECORDS AVAILABLE.- June 1916 to September 1933.

EXTREMES.- Maximum gage height during year, 7.50 feet Aug. 24 (discharge not determined); minimum discharge, 4.8 second-feet Oct. 1-4 (gage height, 1.41 feet).

1916-33: Maximum gage height, 7.5 feet Sept. 30, 1924 at a site 0.6 mile downstream (discharge not determined); minimum discharge, 1.8 second-feet Dec. 18, 1930 (gage height, 1.21 feet).

REMARKS.- Records good except those above 1,300 second-feet and those estimated on the basis of once-daily gage readings for periods during which intake was plugged, Nov. 8-19, Nov. 29 to Mar. 15, Mar. 29 to Apr. 1, Apr. 24 to Aug. 22, Aug. 25 to Sept. 3, Sept. 8-20, which are poor. Discharge affected by ice, Dec. 14-22, Feb. 5, 6, 11-14. Regulation from storage in Still Creek Reservoir after Apr. 18. Water diverted above station not included in records except in part of monthly table. Well and shelter, concrete weir, services of observer, and record of diversion furnished by Panther Valley Water Co.

AVERAGE DISCHARGE.- 15 years (1916-17, 1919-33), 96.1 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.8	551	106	57	45	73	114	94	106	45	18	134
2	5.7	540	57	70	60	73	109	94	94	35	23	125
3	6.0	386	94	51	47	65	114	106	94	574	18	73
4	7.2	223	55	51	44	65	126	94	84	226	40	1,860
5	56	208	51	60	41	65	119	73	71	158	18	645
6	405	180	46	45	40	45	132	79	75	116	18	435
7	129	148	45	46	44	57	226	94	59	92	17	316
8	70	151	73	46	208	174	201	84	94	92	15	253
9	59	94	65	45	119	73	190	142	59	73	14	148
10	62	208	46	45	73	65	164	265	94	71	14	134
11	47	158	46	43	67	45	153	174	60	56	96	84
12	40	158	52	94	63	57	242	174	51	51	24	134
13	61	142	36	45	61	73	198	174	46	46	18	77
14	47	128	33	51	82	208	184	158	45	46	245	84
15	29	119	31	44	106	226	170	142	45	44	73	535
16	28	128	30	36	94	242	154	128	43	47	57	705
17	37	208	29	57	57	238	854	174	35	65	51	535
18	81	94	28	65	73	194	900	119	35	56	51	180
19	63	226	27	34	73	187	500	119	34	40	46	215
20	59	520	28	51	119	177	385	94	34	34	45	198
21	47	352	28	51	142	330	325	94	34	34	43	148
22	47	298	29	56	112	390	269	94	36	29	73	154
23	49	187	24	57	119	307	219	84	34	32	658	94
24	47	146	34	57	119	242	190	75	29	29	3,340	116
25	42	148	55	57	106	198	167	201	29	73	1,440	84
26	47	124	51	73	119	180	167	116	29	34	590	73
27	94	88	40	45	65	148	136	116	70	32	338	65
28	62	65	65	57	65	109	119	119	44	29	215	60
29	59	73	57	65	106	119	106	106	25	21	148	60
30	55	73	47	45	106	106	190	190	24	21	119	51
31	63		59	45	92		119	119		19	148	
Month		Observed			Diversion		Corrected for diversion					
		Maximum	Minimum	Mean	(Mean)		Mean	Per square mile	Run-off in inches			
October		405	4.8	61.6	0.0		61.6	1.40	1.61			
November		551	65	204	.001		204	4.64	5.18			
December		106	24	47.3	.003		47.3	1.08	1.24			
January		94	34	53	.619		53.6	1.22	1.41			
February		208	40	84.4	5.88		90.3	2.05	2.14			
March		390	45	149	7.33		156	3.55	4.09			
April		854	106	232	.665		233	5.30	5.91			
May		265	73	126	.183		126	2.86	3.30			
June		106	24	53.7	.178		53.9	1.22	1.36			
July		574	19	74.8	.828		75.6	1.72	1.98			
August		3,340	14	258	5.17		263	5.98	6.89			
September		1,860	51	259	8.50		268	6.09	6.80			
The year		3,340	4.8	133	2.41		135	3.07	41.91			



## Perkiomen Creek at Graters Ford

LOCATION.- Water-stage recorder 1,650 feet upstream from highway bridge at Graters Ford, Montgomery County, 2-1/2 miles north of Collegeville. Zero of gage is 112.37 feet above mean sea level.

DRAINAGE AREA.- 280 square miles.

RECORDS AVAILABLE.- June 1914 to September 1933.

EXTREMES.- Maximum discharge during year, about 34,600 second-feet Aug. 23 (gage height, 16.65 feet); minimum, 18 second-feet Oct. 4 (gage height, 0.99 foot).

1914-33: Maximum discharge, that of Aug. 23, 1933; minimum, 11 second-feet Sept. 25, 1932 (gage height, 0.91 foot).

REMARKS.- Records fair except those for extremely high stages, those estimated for periods of ice effect, Dec. 14-24, Feb. 11-19, and those based on once-daily chain gage readings for periods of recorder failure, May 13-19, July 29 to Aug. 18, which are poor. Regulation at low stages from operation of mills upstream.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	38	4,690	159	452	162	253	496	173	454	88	35	180
2	28	1,370	159	273	166	230	792	166	288	92	46	173
3	33	481	152	244	159	230	541	262	230	762	49	180
4	26	283	145	244	136	192	739	268	704	413	136	821
5	31	221	145	263	124	170	649	173	285	140	103	678
6	1,010	188	136	230	146	155	410	218	254	96	87	280
7	501	6,260	124	200	126	184	1,660	454	200	79	51	193
8	163	1,390	124	184	1,620	1,330	766	338	271	62	28	162
9	90	669	113	553	563	505	498	682	193	65	20	152
10	73	5,630	100	913	302	293	442	2,140	356	72	43	139
11	58	1,080	98	463	220	183	360	732	221	72	283	128
12	49	608	143	372	180	213	5,950	484	136	56	148	128
13	48	384	230	248	160	358	1,930	526	139	52	142	124
14	39	293	180	217	140	2,260	883	354	121	57	221	386
15	38	244	140	162	140	1,630	646	343	101	40	192	2,800
16	38	213	120	184	220	806	534	343	93	985	127	2,810
17	60	408	100	177	210	563	5,710	646	96	4,440	106	1,030
18	1,800	298	95	177	200	442	2,010	390	85	540	100	534
19	610	4,550	90	192	500	2,220	982	293	78	223	96	349
20	302	1,900	85	221	3,920	4,290	692	272	72	150	592	283
21	202	709	90	162	1,640	6,930	541	922	70	115	281	234
22	145	463	100	166	696	1,630	463	323	64	108	3,780	204
23	115	331	130	239	586	883	366	221	59	85	10,400	177
24	100	283	200	177	477	685	337	648	52	82	12,800	184
25	92	258	1,890	148	411	506	298	1,320	51	76	1,610	178
26	82	410	1,410	379	632	644	283	438	59	69	757	142
27	192	270	1,070	368	319	842	234	290	70	74	484	136
28	250	192	2,680	298	251	571	217	993	59	69	360	130
29	153	176	1,110	248		449	200	398	60	61	293	165
30	115	156	700	209		349	184	1,940	59	63	230	175
31	96	747	177			309		792	51	192		
Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches							
October	1,800	28	212	0.758	0.87							
November	6,260	156	1,150	4.11	4.59							
December	2,680	85	412	1.47	1.70							
January	913	148	276	.986	1.14							
February	3,920	124	514	1.84	1.92							
March	6,930	155	978	3.49	4.02							
April	5,950	184	994	3.55	3.96							
May	2,140	166	566	2.02	2.33							
June	704	51	166	.593	.66							
July	4,440	40	301	1.08	1.24							
August	12,800	20	1,090	3.89	4.48							
September	2,810	124	442	1.58	1.76							
The year	12,800	20	591	2.11	28.67							

## Crum Creek at Woodlyn

LOCATION.- Water-stage recorder at highway bridge at Woodlyn, Delaware County, 2 miles north-east of Chester, and 2-1/2 miles above confluence with Delaware River.

DRAINAGE AREA.- 34.0 square miles.

RECORDS AVAILABLE.- June 1931 to September 1933.

EXTREMES.- Maximum discharge during year, about 1,420 second-feet Aug. 23 (gage height, 7.56 feet); minimum, 1.5 second-feet Oct. 9, Nov. 9 (gage height, 0.61 foot).

1931-33: Maximum discharge, that of Aug. 23, 1933; minimum, 0.3 second-foot Aug. 21, 1932 (gage height, 0.52 foot).

REMARKS.- Records good except those for extremely high stages and those based on once-daily chain gage readings, Mar. 25-31, Apr. 2-10, 15-18, 21-28 Apr. 30 to May 4, which are poor. Flow regulated by storage in Crum Creek Reservoir 5 miles upstream. Water diverted from reservoir not included in records except in part of monthly table. Record of pumpage furnished by Philadelphia Suburban Water Co.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.4	73	17	42	9.1	34	74	60	39	109	7.3	43
2	3.4	10	6.8	12	29	19	97	56	29	37	4.1	44
3	3.4	5.1	15	22	35	24	69	70	31	92	5.7	43
4	3.4	4.1	18	26	20	22	162	80	30	55	113	68
5	6.7	4.1	20	31	44	28	64	36	26	29	40	59
6	38	6.7	14	21	19	16	72	64	36	18	14	43
7	6.2	24	16	25	16	23	138	84	12	13	11	43
8	2.7	13	31	25	128	154	87	82	28	13	5.1	42
9	1.5	3.0	8.4	43	64	83	60	94	26	14	12	42
10	1.7	68	7.8	61	20	52	62	146	21	12	12	43
11	2.2	10	19	30	42	24	56	82	17	15	26	39
12	2.2	6.2	25	41	56	14	307	75	19	14	18	44
13	2.7	5.1	24	16	54	37	161	67	30	12	20	43
14	2.2	5.1	28	19	27	139	83	60	19	7.3	54	89
15	2.9	5.1	26	22	34	102	79	53	14	6.2	29	227
16	3.8	4.1	27	22	36	48	74	53	12	48	19	150
17	14	5.7	22	22	32	42	408	83	22	71	15	90
18	49	5.1	61	26	36	43	155	54	26	34	39	54
19	5.1	82	30	25	49	79	102	48	16	22	29	50
20	3.8	19	24	30	154	206	86	50	9.1	13	27	45
21	4.1	10	22	14	119	230	87	67	8.5	15	55	44
22	4.6	7.9	17	22	36	129	60	42	15	6.7	172	46
23	4.8	7.3	18	27	46	70	67	37	13	4.6	615	41
24	5.1	6.7	22	21	38	74	79	84	7.3	3.4	622	42
25	4.6	6.7	56	20	35	51	79	128	7.3	12	139	40
26	5.1	13	51	151	77	79	77	52	65	45	86	39
27	11	21	38	66	54	77	67	46	102	43	69	38
28	9.7	7.9	127	66	40	67	67	49	35	26	60	44
29	7.9	15	74	59		74	61	34	21	14	60	50
30	7.3	29	40	29		55	84	42	18	12	50	40
31	6.7		42	12		55		46		12	45	

Month	Observed			Diversions (Mean)	Corrected for diversion		
	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October.....	49	1.5	7.36	14.47	21.8	0.641	0.74
November.....	82	3.0	16.1	14.57	30.7	.903	1.01
December.....	127	6.8	30.5	14.59	45.1	1.33	1.53
January.....	151	12	33.8	14.41	48.2	1.42	1.64
February.....	154	9.1	48.2	13.84	62.0	1.82	1.90
March.....	230	14	69.3	12.52	81.8	2.41	2.78
April.....	408	56	104	11.94	116	3.41	3.80
May.....	146	34	65.3	12.22	77.5	2.28	2.63
June.....	102	7.3	25.1	12.98	38.1	1.12	1.25
July.....	109	3.4	26.7	12.44	39.1	1.16	1.33
August.....	622	4.1	79.8	12.42	92.2	2.71	3.12
September.....	227	38	57.5	12.33	69.8	2.05	2.29
The year.....	622	1.5	46.9	13.23	60.1	1.77	24.02



## Ridley Creek at Moylan

LOCATION.- Water-stage recorder at Fox Bank Bridge at Moylan, Delaware County, 1 mile south of Media. Zero of gage is 87.36 feet above mean sea level.

DRAINAGE AREA.- 32.4 square miles.

RECORDS AVAILABLE.- August 1931 to September 1933.

EXTREMES.- Maximum gage height during year, 7.36 feet Aug. 23 (discharge not determined); minimum discharge, 1.6 second-feet Oct. 2 (gage height, 0.65 foot).

1931-33: Maximum gage height, that of Aug. 23, 1933; minimum discharge, that of Oct. 2, 1932.

REMARKS.- Records good except those estimated for periods of ice effect, Dec. 17-23, Feb. 5, 6, which are fair, and those for extremely high stages, which are poor. Flow regulated by storage reservoir of Media Water Co.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	6.2	264	28	37	33	37	65	52	49	133	18	46		
2	4.1	55	27	31	35	37	71	51	41	53	17	44		
3	4.9	25	27	31	31	36	66	56	40	123	21	44		
4	4.9	20	27	32	30	34	106	51	38	51	171	77		
5	22	19	26	32	29	32	64	47	37	35	30	49		
6	78	19	24	29	28	32	65	74	36	29	23	42		
7	23	213	25	29	36	58	121	68	35	26	20	37		
8	9.4	56	24	29	123	144	67	81	39	25	20	37		
9	9.0	44	23	66	41	47	59	78	35	24	19	35		
10	8.5	335	22	52	32	38	58	134	32	22	22	34		
11	8.0	53	24	38	36	33	52	64	31	22	40	33		
12	8.0	38	32	35	37	36	329	67	31	23	25	39		
13	8.2	32	32	30	35	64	109	59	35	21	30	38		
14	9.6	28	37	29	35	139	78	54	31	20	72	180		
15	8.0	27	27	29	42	83	71	48	30	20	34	279		
16	8.7	26	23	29	41	53	69	62	30	78	24	136		
17	42	33	21	29	35	47	300	69	32	106	24	71		
18	153	28	21	29	46	46	117	49	30	32	35	54		
19	29	284	22	30	58	98	87	44	26	27	26	48		
20	20	82	21	29	192	221	78	45	26	24	23	45		
21	18	44	21	27	78	200	73	61	25	24	74	43		
22	12	36	22	29	50	93	70	42	24	21	235	41		
23	12	32	26	29	48	74	66	38	24	21	1,220	41		
24	12	31	38	27	43	69	63	217	21	19	609	42		
25	13	30	73	28	44	62	62	154	23	20	113	38		
26	12	41	47	164	46	77	61	62	47	44	78	37		
27	22	30	59	55	37	70	56	56	99	41	65	38		
28	21	27	135	50	37	60	55	59	40	25	58	61		
29	13	26	63	42	56	54	54	49	30	24	54	95		
30	14	27	44	36	51	52	64	64	65	21	48	48		
31	12	46	34	53	53	53	56	56	56	19	47	47		
Month					Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October					153		4.1		20.2		0.623		0.72	
November					335		19		66.8		2.06		2.30	
December					135		21		35.1		1.08		1.24	
January					164		27		38.6		1.19		1.37	
February					192		28		48.5		1.50		1.56	
March					221		32		70.5		2.20		2.54	
April					329		52		88.1		2.72		3.04	
May					217		38		68.1		2.10		2.42	
June					99		21		36.1		1.11		1.24	
July					133		19		37.8		1.17		1.35	
August					1,220		17		106		3.27		3.77	
September					279		33		61.7		1.90		2.12	
The year					1,220		4.1		56.5		1.74		23.67	

## Chester Creek near Chester

LOCATION.- Water-stage recorder at Dutton Mill Bridge, 3 miles northwest of Chester, Delaware County. Zero of gage is 23.538 feet above mean sea level.

DRAINAGE AREA.- 61.4 square miles.

RECORDS AVAILABLE.- August 1931 to September 1933.

EXTREMES.- Maximum gage height during year, 11.48 feet Aug. 23 (discharge not determined); minimum discharge, 1.5 second-feet Oct. 10 (gage height, 0.35 foot).

1931-33: Maximum gage height, that of Aug. 23, 1933; minimum discharge, 1.0 second-foot Aug. 21, Oct. 22, 1931 (gage height, 0.25 foot).

REMARKS.- Records fair except those for extremely low and high stages, which are poor. Discharge estimated for periods of ice effect, Dec. 17-22, Feb. 5. Regulation from operation of mills upstream.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.2	486	46	70	59	63	105	88	101	287	33	63
2	8.6	115	45	56	61	63	120	86	68	88	32	65
3	8.0	47	44	54	55	62	114	99	63	200	42	61
4	8.6	36	44	56	53	58	218	91	61	81	293	103
5	30	33	43	57	61	56	124	80	57	54	55	73
6	118	32	40	54	52	54	123	135	56	45	42	61
7	44	384	40	48	60	112	287	121	55	43	36	56
8	20	115	39	46	267	279	124	151	60	42	33	54
9	18	73	36	127	80	88	106	146	54	41	34	54
10	14	772	39	105	57	68	101	227	52	41	35	52
11	18	104	40	66	76	58	92	114	50	40	69	49
12	14	69	56	60	74	63	662	106	50	40	47	57
13	13	55	55	52	74	126	219	101	67	39	48	59
14	15	49	62	51	61	283	138	93	50	38	148	276
15	12	46	48	50	76	176	123	83	50	38	59	579
16	11	44	37	50	77	104	120	110	50	162	43	218
17	51	58	35	50	65	87	687	110	53	240	43	114
18	358	49	35	49	98	84	232	83	50	61	112	86
19	56	526	38	51	115	181	156	73	46	46	51	73
20	36	185	36	49	415	473	135	77	44	42	44	69
21	28	82	35	47	155	432	124	106	44	41	158	65
22	23	65	40	50	93	176	120	69	42	40	509	64
23	24	56	51	50	86	131	110	65	39	38	1,890	62
24	23	55	73	45	76	118	109	240	40	36	945	63
25	21	51	153	47	77	105	106	176	39	34	156	59
26	21	74	92	362	79	138	101	84	48	52	106	60
27	40	52	102	108	64	125	95	75	125	61	86	62
28	37	44	299	92	61	104	93	84	56	45	78	80
29	27	44	130	77	93	92	92	67	47	41	71	143
30	24	45	85	62	88	88	88	86	66	38	64	77
31	26		88	58		89		161		35	62	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	358	8	37.3	0.607	0.70
November	772	32	128	2.08	2.32
December	299	35	64.7	1.05	1.21
January	362	45	70.9	1.15	1.33
February	415	51	93.5	1.52	1.58
March	473	54	133	2.17	2.50
April	687	88	167	2.72	3.04
May	240	65	109	1.78	2.05
June	125	39	55.8	.909	1.01
July	287	34	68.7	1.12	1.29
August	1,890	32	175	2.85	3.29
September	579	49	98.6	1.61	1.80
The year	1,890	8	100	1.63	21.12







Brandywine Creek at Chadds Ford

LOCATION.- Water-stage recorder at Pennsylvania Railroad bridge at Chadds Ford, Delaware County. Zero of gage is 150.19 feet (revised) above mean sea level.

DRAINAGE AREA.- 285 square miles.

RECORDS AVAILABLE.- August 1911 to September 1933.

EXTREMES.- Maximum gage height during year, 14.01 feet Aug. 24 (discharge not determined); minimum discharge, 19 second-feet Oct. 3 (gage height, 0.35 foot).

1911-33: Maximum gage height, 15.0 feet Mar. 5, 1920 (discharge uncertain; previously published figure probably in error); minimum discharge, 19 second-feet Jan. 22, 1931 (gage height, 0.34 foot).

REMARKS.- Records fair except those for high stages and those estimated for period of ice effect, Dec. 17-22, which are poor. Regulation at low stages from operation of mills upstream. Well and shelter for water-stage recorder furnished by Water Department of Wilmington, Del.

AVERAGE DISCHARGE.- 22 years (1911-33), 370 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	59	1,450	233	347	273	311	652	518	520	1,050	154	581
2	55	1,000	224	285	279	307	646	518	392	390	146	581
3	59	323	218	282	260	298	581	581	357	1,170	189	539
4	60	208	215	282	248	288	713	581	347	598	3,640	777
5	64	179	210	291	241	276	646	478	330	330	443	560
6	578	165	195	266	227	263	539	730	307	260	263	478
7	276	1,260	192	257	270	385	1,030	782	298	230	215	440
8	124	690	189	242	790	260	713	707	324	215	195	425
9	95	389	178	398	404	512	560	920	301	215	192	399
10	81	2,450	181	573	251	350	539	1,200	276	242	184	389
11	82	693	189	343	269	291	498	759	263	204	402	374
12	74	407	239	301	320	311	2,640	646	260	195	288	410
13	74	312	263	263	286	426	1,750	602	392	187	257	410
14	74	267	301	248	301	1,240	926	560	295	181	806	1,340
15	76	244	248	248	320	759	806	498	263	175	385	1,980
16	78	227	169	251	327	560	759	687	257	380	260	1,150
17	155	312	157	248	304	459	2,890	926	270	1,140	248	759
18	1,070	277	160	245	327	444	1,790	560	245	442	248	581
19	445	1,530	180	254	498	752	1,100	459	230	242	230	478
20	224	1,320	170	254	1,250	1,710	951	448	221	204	212	455
21	158	498	185	233	901	2,990	854	560	218	187	343	429
22	130	364	203	248	459	1,480	806	432	212	181	3,190	410
23	116	314	230	266	425	951	736	396	193	173	5,400	396
24	111	298	289	239	385	854	713	495	189	167	13,200	399
25	111	285	629	236	371	736	690	1,010	187	162	2,550	389
26	106	340	471	860	414	782	668	498	237	339	1,310	374
27	142	307	373	506	340	806	602	410	1,430	337	976	368
28	170	242	1,020	385	307	646	581	518	304	250	854	410
29	132	227	616	340	298	581	560	429	248	192	736	640
30	118	239	410	298	498	539	539	806	233	175	846	459
31	109		410	279		539		801		162	602	
Month						Maximum	Minimum	Mean	Per square mile		Run-off in inches	
October.....						1,070	51	168	0.889		0.68	
November.....						2,450	165	561	1.97		2.20	
December.....						1,020	157	289	1.01		1.16	
January.....						860	233	315	1.11		1.28	
February.....						1,250	227	395	1.39		1.45	
March.....						2,990	260	681	2.39		2.76	
April.....						2,890	498	916	7.21		3.59	
May.....						1,200	396	630	2.21		2.55	
June.....						1,430	187	320	1.12		1.25	
July.....						1,170	162	334	1.17		1.35	
August.....						13,200	146	1,250	4.39		5.06	
September.....						1,980	368	579	2.03		2.26	
The year.....						13,200	55	537	1.98		25.58	

Leipsic River near Cheswold, Del.

LOCATION.- Staff gage at highway bridge  $2\frac{1}{2}$  miles west of Cheswold, Kent County.

DRAINAGE AREA.- 9.21 square miles.

RECORDS AVAILABLE.- July 1931 to September 1933.

EXTREMES.- Maximum discharge during year, about 374 second-feet Aug. 23 (gage height, 6.1 feet from graph based on gage readings); minimum, 2.8 second-feet several times during August.

1931-33: Maximum discharge, that of Aug. 23, 1933; minimum, 0.9 second-foot Aug. 19, 1931.

REMARKS.- Records fair except those above 75 second-feet and those estimated for periods of missing or poor gage-height record, Dec. 17-28, Dec. 30 to Jan. 11, May 26, 27, 29, 30, June 1-6, Aug. 23, 24, which are poor. Gage-height observer paid by the Pennsylvania Department of Health.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.4	20	7.4	17	14	12	13	10	15	5.6	3.8	13
2	3.4	16	7.2	16	16	12	17	10	11	17	3.9	11
3	4.0	8.9	7.4	14	14	12	16	11	10	50	4.5	20
4	4.3	6.6	7.4	13	13	12	26	10	7.4	25	20	19
5	5.9	5.8	7.2	13	15	11	17	9.6	7.1	7.3	5.4	18
6	9.5	7.2	7.1	13	13	10	17	16	6.6	4.8	4.1	12
7	5.2	11	7.1	12	14	12	22	14	7.6	4.1	3.3	12
8	3.9	20	6.8	12	34	14	14	27	9.5	4.1	2.8	13
9	3.8	32	7.0	18	19	12	13	25	7.9	4.4	2.9	10
10	4.1	68	7.4	28	12	10	12	16	7.7	4.4	5.2	9.3
11	4.1	14	9.0	15	14	10	12	13	7.6	6.6	9.0	9.6
12	3.6	9.3	9.2	13	15	10	33	12	7.0	5.4	4.1	16
13	5.2	8.7	8.4	12	12	12	25	18	6.0	4.1	4.8	12
14	5.9	7.7	8.5	12	15	14	14	13	5.8	4.1	7.2	31
15	3.6	8.2	7.7	12	29	27	13	12	5.9	4.1	3.0	27
16	6.6	8.0	5.9	12	26	15	13	22	6.8	8.1	3.6	17
17	12	8.5	5.5	12	17	12	33	16	9.4	5.3	4.3	13
18	22	7.7	5.3	12	17	12	25	11	7.1	4.1	3.8	11
19	12	32	5.2	12	15	19	16	9.5	5.8	4.1	9.8	10
20	5.6	41	5.1	11	32	36	33	8.8	5.4	4.1	16	11
21	4.8	11	5.0	12	27	54	22	9.5	5.3	4.1	37	11
22	4.4	8.5	5.0	13	15	30	16	8.0	5.0	4.1	90	13
23	4.3	9.5	6.0	14	13	17	14	7.4	4.8	4.1	242	14
24	4.4	8.2	10	12	13	15	13	7.4	4.8	3.7	225	11
25	5.3	8.0	21	12	14	13	12	8.0	4.8	3.6	50	9.3
26	4.8	8.2	15	70	14	16	12	7.9	10	8.9	24	12
27	13	7.7	14	33	12	15	11	8.0	16	9.5	18	12
28	9.0	7.4	48	25	11	14	11	9.3	12	5.9	16	10
29	5.3	7.4	48	18		13	11	6.8	8.4	4.1	13	23
30	3.5	7.4	28	15		12	10	7.0	6.0	4.1	13	14
31	3.6		18	14		12		11		4.0	11	
Month					Maximum		Minimum		Mean		Per square mile	Run-off in inches
October.....					22		3.4		6.15		0.668	0.77
November.....					68		5.8		14.1		1.53	1.71
December.....					48		5.0		11.6		1.26	1.45
January.....					70		11		16.7		1.81	2.09
February.....					34		11		17.0		1.85	1.93
March.....					54		10		16.0		1.74	2.01
April.....					33		10		17.1		1.86	2.08
May.....					27		6.9		12.1		1.31	1.81
June.....					16		4.8		7.79		.846	.94
July.....					50		3.6		7.51		.815	.94
August.....					242		2.8		27.8		3.02	3.48
September.....					31		9.3		14.1		1.53	1.71
The year.....					242		2.8		14.0		1.52	20.62



Murderkill River near Felton, Del.

LOCATION.- Staff gage at highway bridge 2.2 miles south of Felton, Kent County.

DRAINAGE AREA.- 14.4 square miles.

RECORDS AVAILABLE.- July 1931 to September 1933.

EXTREMES.- Maximum discharge during year, about 490 second-feet Aug. 23 (gage height, 5.1 feet); minimum 1.3 second-feet several times in October (gage height, 0.48 foot).

1931-33: Maximum discharge, that of Aug. 23, 1933; minimum, 1.3 second-feet several times in September and October, 1932 (gage height, 0.48 foot).

REMARKS.- Records fair. Discharge estimated for periods of ice effect, Dec. 17-21, Feb. 5. Gage-height observer paid by the Pennsylvania Department of Health.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.4	15	11	44	26	17	15	14	68	7.8	5.3	21
2	1.4	14	11	30	37	17	14	14	28	7.4	4.8	20
3	1.4	7.6	10	24	31	17	15	14	16	54	4.8	19
4	1.4	6.0	10	24	25	15	30	12	15	18	5.3	25
5	2.0	5.7	9.3	22	22	14	22	12	12	10	5.5	28
6	3.6	5.5	9.1	20	20	14	20	28	12	8.9	4.6	21
7	2.5	15	8.9	19	22	16	26	19	11	7.6	4.5	16
8	2.2	14	8.4	17	79	26	21	34	15	7.6	3.8	15
9	2.2	19	8.0	39	54	19	17	60	11	7.0	4.6	14
10	1.9	123	7.8	62	28	15	17	47	10	6.6	4.9	12
11	2.2	43	9.3	32	39	12	15	31	9.5	14	12	11
12	2.3	22	14	30	39	12	38	22	9.1	11	5.8	21
13	2.3	17	12	24	30	12	46	48	9.3	8.4	5.5	15
14	2.3	14	12	20	37	14	25	32	8.7	7.8	8.2	14
15	2.8	12	10	19	68	16	21	19	8.7	7.6	5.7	17
16	3.2	12	8.9	17	50	12	20	32	8.9	8.2	5.2	22
17	11	12	8.7	16	35	12	42	26	15	7.6	5.5	17
18	36	11	8.4	15	33	14	35	17	10	7.2	5.0	12
19	19	36	8.1	15	26	22	25	14	9.3	6.8	6.2	11
20	6.8	67	7.9	15	52	44	85	12	8.2	6.8	5.5	11
21	3.8	28	7.9	16	72	57	83	14	8.0	6.6	111	11
22	3.2	21	8.7	19	35	42	44	11	7.6	6.4	298	10
23	3.1	17	9.8	17	30	26	27	10	7.2	5.9	327	9.5
24	3.1	16	20	15	26	21	25	10	6.8	5.8	330	9.1
25	3.1	15	31	18	24	17	22	18	7.2	6.0	134	8.7
26	3.2	15	24	161	25	21	20	12	7.0	18	66	11
27	20	12	21	120	21	19	17	13	8.0	15	42	10
28	10	12	72	89	19	16	16	114	10	9.3	32	8.7
29	5.2	11	90	54	14	15	107	7.8	7.0	32	42	42
30	4.2	12	50	37	12	14	36	8.0	6.4	25	32	32
31	4.0	44	28	12	12	12	31	31	5.7	22	22	22
Month	Maximum		Minimum		Mean		Per square mile		Run-off in inches			
October	36		1.4		5.51		0.383		0.442			
November	123		5.5		21.0		1.45		1.63			
December	90		7.8		18.4		1.22		1.48			
January	161		15		34.2		2.42		2.79			
February	70		19		35.9		2.49		2.59			
March	57		12		19.3		1.34		1.54			
April	85		14		27.7		1.92		2.14			
May	114		10		28.5		1.98		2.28			
June	68		6.8		12.4		.861		.961			
July	54		5.7		10.1		.701		.808			
August	330		3.8		49.4		3.43		3.95			
September	42		8.7		16.5		1.15		1.28			
The year	250		1.4		23.2		1.61		21.89			

## SUSQUEHANNA BASIN



SUSQUEHANNA BASIN

North Branch of Susquehanna River at Binghamton, N. Y.

LOCATION.- Chain gage at Washington Street Bridge at Binghamton, Broome County, 500 feet upstream from mouth of Chenango River. Zero of gage is 821.49 feet above mean sea level.

DRAINAGE AREA.- 2,400 square miles.

RECORDS AVAILABLE.- July 1901 to December 1912; January 1915 to September 1933.

EXTREMES.- Maximum gage height during year, 12.19 feet Oct. 7; minimum, 1.73 feet.

1901-12, 1915-33: Maximum gage height, 18.0 feet (determined from hydrograph)  
Mar. 16, 1929; minimum, 1.5 feet Sept. 20, 1908.

Maximum stage known, 23.5 feet Mar. 17, 1865.

REMARKS.- Records good. Gage heights obtained at this station for flood warning purposes.  
Discharge is not determined.

Daily gage height, in feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.00	3.62	3.09	3.65	2.62	2.91	5.01	3.27	2.59	1.97	1.81	2.54
2	2.03	5.73	3.09	3.53	2.71	2.91	8.53	3.09	2.58	1.98	1.79	2.49
3	2.04	5.59	3.06	2.88	2.75	2.92	9.48	3.21	2.41	2.47	1.75	2.45
4	2.05	4.71	3.00	3.09	2.75	2.81	9.15	3.47	2.43	2.36	1.94	4.68
5	2.11	4.19	3.07	3.04	2.70	2.83	8.57	3.79	2.35	2.21	2.03	3.91
6	10.47	4.07	3.08	2.97	2.84	2.85	7.32	3.49	2.73	2.15	2.05	3.23
7	11.98	5.29	3.08	2.92	2.80	2.73	7.43	3.47	2.77	2.05	2.13	2.87
8	10.65	6.31	2.96	2.87	2.63	4.33	8.51	3.43	2.61	2.01	2.13	2.81
9	7.83	5.57	2.89	2.85	2.56	5.00	7.99	3.26	2.45	1.95	2.15	3.77
10	5.27	8.20	2.83	2.78	2.85	3.93	6.69	3.51	2.37	1.93	2.09	3.33
11	4.31	9.52	2.73	2.77	2.71	3.04	5.87	3.37	2.32	1.91	2.05	2.87
12	3.85	8.01	2.56	2.89	2.99	3.15	5.63	3.32	2.17	1.93	2.02	2.79
13	5.62	6.75	2.64	2.95	3.01	3.14	6.42	3.16	2.21	1.90	1.91	2.73
14	3.47	5.73	2.75	2.71	2.67	4.03	7.37	3.12	2.15	1.85	2.02	2.75
15	3.17	5.03	3.01	2.67	2.68	8.08	7.05	3.11	2.12	1.93	2.04	3.90
16	3.12	4.61	2.61	2.61	3.03	8.05	6.89	2.97	2.13	1.95	2.05	7.28
17	3.03	4.67	2.73	2.73	2.65	8.49	7.28	2.87	2.05	1.85	1.99	8.03
18	3.03	5.23	2.47	2.69	2.75	6.40	8.38	2.77	2.03	1.85	2.03	6.28
19	3.13	6.07	2.69	2.79	2.78	6.18	8.67	2.69	2.05	1.91	2.05	4.87
20	3.58	9.35	2.57	3.27	2.86	5.75	7.67	2.65	2.05	1.86	2.01	4.09
21	3.55	8.85	2.73	3.55	3.09	7.93	6.40	2.61	2.01	1.85	2.03	3.69
22	3.32	7.23	2.50	3.48	3.45	9.81	5.55	2.57	2.01	1.85	2.33	3.59
23	3.15	5.91	2.48	4.01	3.31	8.25	4.98	2.63	2.00	1.84	3.15	3.50
24	3.05	5.07	2.60	4.07	3.31	6.33	4.55	2.59	1.99	1.83	8.97	3.61
25	2.88	4.71	3.08	3.74	3.58	5.45	4.26	2.61	1.99	1.91	9.21	3.37
26	2.93	4.45	3.85	3.33	3.24	5.20	4.08	2.42	1.99	2.01	6.77	3.17
27	2.91	4.03	3.44	3.21	2.97	4.94	4.09	2.57	2.00	1.95	4.72	3.08
28	2.25	3.55	3.19	3.15	3.09	5.14	3.99	2.54	2.01	1.91	3.67	3.02
29	3.50	3.27	3.07	3.05		4.64	3.69	2.46	2.01	1.87	3.11	2.98
30	3.27	3.15	3.11	2.81		4.31	3.51	2.49	1.99	1.85	2.88	3.43
31	3.05		3.63	2.66		4.29		2.61		1.84	2.70	

## SUSQUEHANNA BASIN

North Branch of Susquehanna River at Towanda

LOCATION.- Chain gage at Bridge Street Bridge at Towanda, Bradford County. Zero of gage is 693.85 feet above mean sea level. (Previously erroneously published as 693.4 feet).

DRAINAGE AREA.- 7,770 square miles.

RECORDS AVAILABLE.- December 1892 to September 1933.

EXTREMES.- Maximum discharge during year, 71,500 second-feet Aug. 25 (gage height, 12.9 feet from graph based on gage readings); minimum, 784 second-feet Aug. 3 (gage height, 0.25 foot).

1892-1933: Maximum gage height, 24.5 feet Mar. 2, 1902 (discharge not determined); minimum discharge, 538 second-feet Dec. 3, 1930 (gage height, -0.15 foot).

Maximum stage known, 25.0 feet Mar. 17, 1865 (discharge not determined).

REMARKS.- Records good except those for extremely high stages and those estimated for periods of ice effect, Dec. 19-23, Feb. 10-19, which are fair. Discharge estimated for days of questionable gage-height record, Oct. 21, Dec. 6.

AVERAGE DISCHARGE.- 15 years (1918-33), 10,000 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	871	6,150	6,500	9,000	4,260	4,770	15,160	7,560	4,770	1,420	825	4,770
2	917	12,800	5,800	8,280	4,260	5,110	24,800	6,850	4,260	1,340	825	4,260
3	969	16,500	5,800	6,850	4,600	4,770	35,700	8,280	3,750	2,870	784	5,030
4	917	13,700	5,450	6,150	4,450	4,770	37,100	14,600	3,430	7,980	1,510	9,600
5	1,100	11,000	5,450	6,150	4,090	4,260	39,200	12,800	3,110	4,430	1,600	15,200
6	13,100	9,780	6,000	6,150	3,430	4,260	31,100	11,500	5,450	2,810	1,600	10,300
7	47,200	14,800	5,450	5,450	2,960	4,090	32,400	14,200	6,850	2,280	1,420	6,500
8	41,300	21,800	5,450	5,110	3,430	10,500	48,100	13,300	6,150	1,920	1,600	5,110
9	30,400	18,500	5,110	5,110	2,960	21,800	37,800	10,600	6,850	1,700	1,420	4,600
10	17,400	22,700	4,770	4,770	2,700	16,400	29,800	10,200	4,770	1,420	1,420	6,850
11	11,000	48,400	4,090	4,600	2,650	9,640	23,000	11,500	3,430	1,340	1,340	5,450
12	8,280	36,400	3,920	4,600	2,600	7,560	19,600	10,200	3,110	1,200	1,270	4,260
13	6,850	28,000	3,110	4,600	2,600	8,280	29,800	9,000	2,540	1,080	1,600	3,920
14	6,500	19,600	3,430	4,600	2,650	9,900	28,500	8,640	2,160	1,020	1,700	4,090
15	5,800	15,600	2,540	4,600	2,700	35,000	27,200	8,280	2,040	969	1,510	8,100
16	5,110	13,300	2,040	4,090	2,900	49,200	23,600	7,560	2,040	969	1,510	18,100
17	4,770	11,500	2,810	3,590	3,200	33,700	26,600	7,200	1,810	1,140	1,510	26,000
18	4,770	12,400	2,540	3,920	3,400	27,800	41,300	7,560	1,700	1,020	1,420	21,800
19	5,800	15,300	2,300	4,260	3,700	26,000	44,800	6,500	1,600	969	1,270	14,600
20	6,500	40,000	2,200	4,770	4,600	29,800	35,000	5,800	1,510	917	1,140	10,600
21	7,400	38,500	2,300	7,200	5,450	42,000	28,600	5,450	1,510	871	1,140	8,280
22	6,150	29,200	2,500	6,850	5,800	54,400	20,100	6,500	1,420	917	1,200	6,850
23	5,450	21,300	2,800	9,760	6,150	44,100	16,500	6,150	1,270	871	2,070	6,500
24	5,710	15,600	3,270	11,000	6,150	29,800	14,200	5,110	1,200	871	38,600	6,150
25	4,430	13,700	5,110	9,360	6,500	21,300	12,400	6,150	1,200	917	65,100	6,150
26	4,090	11,900	9,760	7,920	6,150	17,500	11,500	6,850	1,270	917	34,900	5,800
27	4,260	10,600	9,760	7,200	5,450	16,500	11,500	5,110	2,460	917	19,400	5,110
28	5,800	8,640	7,920	6,850	4,090	18,000	10,600	6,150	2,880	969	14,600	4,770
29	7,920	7,200	6,850	5,450		17,500	9,760	5,450	1,700	969	10,200	4,770
30	7,200	6,500	6,150	4,770		15,100	9,000	5,110	1,510	917	7,560	6,150



## SUSQUEHANNA BASIN

North Branch of Susquehanna River at Binghamton, N. Y.

LOCATION.- Chain gage at Washington Street Bridge at Binghamton, Broome County, 500 feet upstream from mouth of Chenango River. Zero of gage is 821.49 feet above mean sea level.

DRAINAGE AREA.- 2,400 square miles.

RECORDS AVAILABLE.- July 1901 to December 1912; January 1915 to September 1933.

EXTREMES.- Maximum gage height during year, 12.19 feet Oct. 7; minimum, 1.73 feet.

1901-12, 1915-33: Maximum gage height, 18.0 feet (determined from hydrograph)  
Mar. 16, 1929; minimum, 1.5 feet Sept. 20, 1908.

Maximum stage known, 23.5 feet Mar. 17, 1865.

REMARKS.- Records good. Gage heights obtained at this station for flood warning purposes.  
Discharge is not determined.

Daily gage height, in feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.00	3.62	3.09	3.65	2.62	2.91	5.01	3.27	2.59	1.97	1.81	2.54
2	2.03	5.73	3.09	3.53	2.71	2.91	8.53	3.09	2.58	1.98	1.79	2.49
3	2.04	5.59	3.06	2.88	2.75	2.92	9.48	3.21	2.41	2.47	1.75	2.45
4	2.05	4.71	3.00	3.09	2.76	2.81	9.15	3.47	2.43	2.36	1.94	4.68
5	2.11	4.19	3.07	3.04	2.70	2.83	8.57	3.79	2.35	2.21	2.03	3.91
6	10.47	4.07	3.08	2.97	2.84	2.85	7.32	3.49	2.73	2.15	2.05	3.23
7	11.98	5.29	3.08	2.92	2.80	2.73	7.43	3.47	2.77	2.05	2.13	2.87
8	10.66	6.31	2.96	2.87	2.63	4.33	8.81	3.43	2.61	2.01	2.13	2.81
9	7.83	5.57	2.89	2.85	2.56	5.00	7.99	3.26	2.43	1.95	2.15	3.77
10	5.27	8.20	2.83	2.78	2.85	3.93	6.69	3.31	2.37	1.93	2.09	3.33
11	4.31	9.52	2.73	2.77	2.71	3.04	5.87	3.37	2.32	1.91	2.05	2.87
12	3.85	8.01	2.56	2.89	2.99	3.15	5.63	3.32	2.17	1.93	2.02	2.79
13	5.62	6.75	2.64	2.95	3.01	3.14	6.42	3.16	2.21	1.90	1.91	2.73
14	3.47	5.73	2.75	2.71	2.57	4.03	7.37	3.12	2.15	1.85	2.02	2.75
15	3.17	5.03	3.01	2.67	2.68	8.08	7.05	3.11	2.12	1.93	2.04	3.90
16	3.12	4.61	2.61	2.61	3.03	8.05	6.89	2.97	2.13	1.95	2.05	7.28
17	3.03	4.87	2.73	2.73	2.65	8.49	7.28	2.87	2.05	1.85	1.99	8.03
18	3.03	5.23	2.47	2.69	2.75	6.40	8.38	2.77	2.03	1.85	2.03	6.28
19	3.13	6.07	2.69	2.79	2.78	6.18	8.67	2.69	2.05	1.91	2.05	4.87
20	3.58	9.35	2.57	3.27	2.86	5.75	7.67	2.65	2.05	1.86	2.01	4.09
21	3.55	8.86	2.73	3.55	3.09	7.93	6.40	2.61	2.01	1.85	2.03	3.69
22	3.32	7.23	2.50	3.48	3.45	9.81	5.55	2.57	2.01	1.85	2.33	3.59
23	3.15	5.91	2.48	4.01	3.31	8.25	4.98	2.63	2.00	1.84	3.15	3.50
24	3.05	5.07	2.60	4.07	3.31	6.33	4.55	2.59	1.99	1.83	8.97	3.61
25	2.88	4.71	3.08	3.74	3.38	5.45	4.26	2.61	1.99	1.91	9.21	3.37
26	2.93	4.45	3.85	3.33	3.24	5.20	4.08	2.42	1.99	2.01	6.77	3.17
27	2.91	4.03	3.44	3.21	2.97	4.94	4.09	2.57	2.00	1.95	4.72	3.08
28	2.25	3.56	3.19	3.15	3.09	5.14	3.99	2.54	2.01	1.91	3.67	3.02
29	3.50	3.27	3.07	3.05		4.64	3.69	2.46	2.01	1.87	3.11	2.98
30	3.27	3.15	3.11	2.81		4.31	3.51	2.49	1.99	1.85	2.88	3.43
31	3.05		3.63	2.66		4.29		2.61		1.84	2.70	

## SUSQUEHANNA BASIN

North Branch of Susquehanna River at Towanda

LOCATION.- Chain gage at Bridge Street Bridge at Towanda, Bradford County. Zero of gage is 693.85 feet above mean sea level. (Previously erroneously published as 693.4 feet).

DRAINAGE AREA.- 7,770 square miles.

RECORDS AVAILABLE.- December 1892 to September 1933.

EXTREMES.- Maximum discharge during year, 71,500 second-feet Aug. 25 (gage height, 12.9 feet from graph based on gage readings); minimum, 784 second-feet Aug. 3 (gage height, 0.25 foot).

1892-1933: Maximum gage height, 24.5 feet Mar. 2, 1902 (discharge not determined); minimum discharge, 538 second-feet Dec. 3, 1930 (gage height, -0.15 foot).

Maximum stage known, 25.0 feet Mar. 17, 1865 (discharge not determined).

REMARKS.- Records good except those for extremely high stages and those estimated for periods of ice effect, Dec. 19-23, Feb. 10-19, which are fair. Discharge estimated for days of questionable gage-height record, Oct. 21, Dec. 6.

AVERAGE DISCHARGE.- 15 years (1918-33), 10,000 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	871	6,150	6,500	9,000	4,260	4,770	15,100	7,560	4,770	1,420	825	4,770
2	917	12,800	5,800	8,280	4,260	5,110	24,800	6,850	4,260	1,340	825	4,260
3	969	16,500	5,800	6,850	4,600	4,770	35,700	8,280	3,750	2,980	784	5,030
4	917	13,700	5,450	6,150	4,430	4,770	37,100	14,600	3,430	7,870	1,510	9,600
5	1,100	11,000	5,450	6,150	4,090	4,260	39,200	12,800	3,110	4,430	1,600	15,200
6	13,100	9,780	6,000	6,150	3,430	4,260	31,100	11,500	5,450	2,810	1,600	10,300
7	47,200	14,800	5,450	5,450	2,960	4,090	32,400	14,200	6,850	2,280	1,420	6,110
8	41,300	21,800	5,450	5,110	3,430	10,500	49,100	13,300	6,150	1,920	1,600	5,500
9	30,400	18,500	5,110	5,110	2,980	21,800	37,800	10,600	6,850	1,700	1,420	4,600
10	17,400	22,700	4,770	4,770	2,700	16,900	29,600	10,200	4,770	1,420	1,420	6,850
11	11,000	48,400	4,090	4,600	2,650	9,640	23,000	11,500	3,430	1,340	1,340	5,450
12	8,280	36,400	3,920	4,600	2,600	7,560	19,600	10,200	3,110	1,200	1,270	4,260
13	6,850	26,000	3,110	4,600	2,600	8,280	29,800	9,000	2,540	1,080	1,600	3,920
14	6,500	19,600	3,430	4,600	2,650	9,900	28,500	8,640	2,160	1,020	1,700	4,090
15	5,800	15,600	2,540	4,600	2,700	35,000	27,200	8,280	2,040	969	1,510	8,100
16	5,110	13,300	2,040	4,090	2,900	49,200	23,600	7,560	2,040	969	1,510	18,100
17	4,770	11,500	2,810	3,590	3,200	33,700	26,600	7,200	1,810	1,140	1,510	26,000
18	4,770	12,400	2,540	3,920	3,400	27,800	41,300	7,560	1,700	1,020	1,420	21,800
19	5,800	15,500	2,300	4,260	3,700	26,000	44,800	6,500	1,600	969	1,270	14,600
20	6,500	40,000	2,200	4,770	4,600	29,800	35,000	5,800	1,510	917	1,140	10,600
21	7,400	38,500	2,300	7,200	5,450	42,000	28,600	5,450	1,510	871	1,140	8,280
22	6,150	29,200	2,500	6,850	5,800	54,400	20,100	6,500	1,420	917	1,200	6,850
23	5,450	21,300	2,800	9,780	6,150	44,100	16,500	6,150	1,270	871	2,070	6,500
24	5,710	15,600	3,270	11,000	6,150	29,800	14,200	5,110	1,200	871	38,600	6,150
25	4,430	13,700	5,110	9,360	6,500	21,300	12,400	6,150	1,200	917	65,100	6,150
26	4,090	11,900	9,780	7,920	6,150	17,500	11,500	6,850	1,270	917	34,900	5,800
27	4,260	10,600	9,780	7,200	5,450	16,500	11,500	5,110	2,460	917	19,400	5,110
28	5,800	8,640	7,920	6,650	4,090	18,000	10,600	6,150	2,280	969	14,600	4,770
29	7,920	7,200	6,850	5,450		17,500	9,780	5,450	1,700	969	10,200	4,770
30	7,200	6,500	6,150	4,770		15,100	9,000	5,110	1,510	917	7,560	5,150



## North Branch of Susquehanna River at Wilkes-Barre

LOCATION.- Water-stage recorder at Market Street Bridge at Wilkes-Barre, Luzerne County.  
Zero of gage is 511.03 feet above mean sea level.

DRAINAGE AREA.- 9,960 square miles.

RECORDS AVAILABLE.- November 1890 to September 1933.

EXTREMES.- Maximum discharge during year, 99,800 second-feet Aug. 25 (gage height, 19.72 feet); minimum, 1,010 second-feet Oct. 3 (gage height, 1.03 feet).

1890-1933: Maximum discharge (estimated), 221,000 second-feet Mar. 2, 1902 (gage height, 31.4 feet); minimum, 820 second-feet Sept. 12, 16, 17, 20, 1913.

Maximum stage known, 33.1 feet Mar. 18, 1865 (discharge not determined).

REMARKS.- Records good except those estimated for periods of ice effect, Dec. 16-24, Feb. 9-17, and those based on chain gage readings for periods of recorder failure, Mar. 30 to Apr. 6, June 18-27, which are fair.

AVERAGE DISCHARGE.- 34 years (1899-1933), 13,600 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,010	8,920	8,350	11,800	6,690	7,120	19,500	11,200	7,700	2,380	1,500	8,600
2	1,010	16,400	8,030	11,000	6,270	7,120	21,300	10,200	6,830	2,630	1,420	7,410
3	1,010	19,800	7,570	11,000	6,140	7,420	37,300	9,850	6,000	3,460	1,340	6,550
4	1,040	20,000	7,270	9,330	6,140	6,980	43,300	14,200	5,470	5,020	1,760	22,300
5	1,320	16,800	7,270	8,350	5,860	6,690	45,800	18,700	4,960	9,340	1,760	34,600
6	12,100	13,600	6,980	8,350	4,970	6,140	42,100	16,200	7,440	6,300	2,120	23,700
7	45,800	12,400	6,980	8,030	3,980	5,730	36,200	16,600	11,600	4,320	2,150	15,400
8	50,300	20,000	6,980	7,570	4,900	7,810	49,000	19,200	11,200	3,380	2,080	11,200
9	40,300	24,100	6,550	7,120	4,000	20,000	54,200	16,200	10,600	2,810	1,880	8,900
10	30,200	26,100	6,140	6,690	3,500	26,600	43,300	15,000	9,500	2,460	1,940	7,850
11	18,600	37,800	5,730	6,270	3,300	17,600	34,000	14,600	7,120	2,220	2,380	8,900
12	12,400	49,000	5,340	6,550	3,200	13,100	29,100	15,000	5,600	2,010	2,460	7,560
13	9,660	37,300	4,970	6,690	3,300	10,400	32,800	13,400	4,710	1,880	2,300	6,270
14	8,030	28,900	4,260	5,860	3,500	12,100	39,600	12,000	4,010	1,760	2,300	5,860
15	7,270	22,600	3,920	6,000	4,100	19,200	36,800	11,600	3,580	1,650	2,540	10,400
16	6,550	18,600	3,600	5,600	4,500	50,000	33,400	11,200	3,280	1,650	2,630	26,600
17	5,800	17,700	3,300	5,600	4,800	49,600	35,100	10,200	3,080	1,600	2,220	43,300
18	5,730	16,000	3,100	5,340	6,000	38,500	48,400	9,850	2,900	1,550	2,150	35,600
19	6,690	20,600	3,000	5,730	6,140	35,100	57,000	9,630	2,720	1,600	2,150	27,600
20	7,420	26,500	3,000	7,120	7,270	36,200	52,900	8,300	2,630	1,600	2,150	19,600
21	8,030	51,000	3,000	7,570	9,000	47,700	41,500	7,700	2,460	1,550	2,080	15,000
22	8,350	42,700	3,100	9,330	9,660	61,200	32,300	7,700	2,300	1,500	2,680	12,300
23	7,420	32,900	3,400	13,600	9,660	61,900	25,600	7,700	2,220	1,500	6,440	10,600
24	6,550	25,100	4,000	14,400	10,000	47,000	21,400	7,120	2,150	1,650	59,500	9,500
25	6,000	20,000	4,970	14,800	9,330	34,000	19,200	7,560	1,880	2,350	90,400	8,900
26	5,470	17,200	6,660	13,200	9,660	27,100	17,000	8,900	1,820	2,150	65,800	8,600
27	5,100	15,200	12,100	11,800	9,000	24,100	15,800	9,200	1,880	1,880	38,000	8,000
28	5,730	12,800	11,400	10,700	7,270	23,100	15,000	7,260	2,380	1,700	25,600	7,260
29	7,720	10,400	10,000	9,660	24,600	14,200	7,410	3,080	1,550	1,550	19,600	6,830
30	9,330	9,330	8,670	8,670	22,200	12,600	7,410	2,720	1,600	1,600	14,600	6,550
31	8,350	9,330	9,330	7,270	20,400	20,400	7,850	1,550	1,550	1,550	10,900	
Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches							
October	50,300	1,010	11,300	1.13	1.30							
November	51,000	8,920	23,400	2.35	2.62							
December	12,100	3,000	6,100	.612	.71							
January	14,800	5,340	8,740	.878	1.01							
February	10,000	3,200	6,150	.617	.64							
March	61,900	5,730	25,100	2.52	2.90							
April	57,000	12,600	33,500	3.36	3.75							
May	19,200	7,120	11,300	1.13	1.30							
June	11,600	1,820	4,790	.481	.54							
July	9,340	1,500	2,540	.255	.29							
August	90,400	1,340	12,200	1.22	1.41							
September	43,500	5,860	14,400	1.45	1.62							
The year	90,400	1,010	13,300	1.34	18.09							

## NORTH BRANCH OF SUSQUEHANNA RIVER AT DANVILLE

LOCATION.- Chain gage at highway bridge at Danville, Montour County. Zero of gage is 430.47 feet above mean sea level.

DRAINAGE AREA.- 11,200 square miles.

RECORDS AVAILABLE.- March 1899 to December 1903; March 1905 to September 1933.

EXTREMES.- Maximum discharge during year, 119,000 second-feet Aug. 25 (gage height, 17.04 feet); minimum, 990 second-feet Oct. 1 (gage height, 1.86 feet).

1899-1903, 1905-33: Maximum discharge (estimated), 305,000 second-feet Mar. 3, 1902 (gage height, 26.07 feet); minimum, 830 second-feet Sept. 23-25, 1900 (gage height, 1.6 feet).

REMARKS.- Records good except those estimated for periods of ice effect, Dec. 17-25, Feb. 11-19, which are fair. Discharge estimated for days of missing gage height record, Jan. 29, Apr. 1, 26, May 13, Mar. 9.

AVERAGE DISCHARGE.- 30 years (1899-1900, 1901-3, 1905-31, 1932-33), 15,700 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	990	10,200	9,730	12,600	7,870	8,780	22,400	13,600	9,250	3,330	1,850	11,200
2	1,060	18,600	9,730	12,600	7,870	8,780	23,000	12,100	8,320	3,180	1,850	9,250
3	1,060	21,200	9,250	12,600	7,430	8,780	32,500	11,600	7,000	3,490	1,730	7,870
4	1,140	23,600	8,780	11,600	7,430	8,780	45,000	11,600	6,580	3,180	1,730	12,600
5	1,690	21,200	8,320	10,200	7,000	8,320	49,200	19,400	5,770	3,020	1,980	41,100
6	11,300	17,800	7,870	9,730	6,580	7,870	46,600	18,900	6,170	10,700	2,120	31,000
7	41,200	15,100	7,870	9,250	6,170	7,430	42,500	17,800	11,600	6,170	2,280	21,200
8	57,200	14,600	7,870	9,250	5,380	8,780	49,200	19,400	12,600	4,820	2,410	15,100
9	48,400	24,900	7,870	8,320	5,770	20,800	61,700	20,600	12,600	4,140	2,410	11,600
10	37,700	26,900	7,430	8,320	3,970	29,600	52,700	18,300	11,200	3,490	2,410	9,250
11	25,500	33,200	7,000	7,430	3,500	24,900	42,500	16,700	9,730	3,020	3,330	8,780
12	16,700	44,100	6,580	7,870	3,400	17,800	36,100	17,200	7,430	3,330	3,330	9,250
13	12,100	45,800	6,170	7,870	3,300	12,600	36,100	16,200	6,580	2,410	3,020	7,870
14	9,730	36,100	5,770	7,430	3,300	14,100	45,000	15,100	5,190	2,280	2,860	7,000
15	8,320	26,900	5,380	7,000	3,400	20,000	44,100	13,600	4,470	2,120	3,020	10,900
16	7,870	22,400	5,000	7,000	4,000	46,800	40,000	13,600	4,140	2,120	3,180	31,800
17	7,000	18,900	4,600	7,000	5,500	61,700	41,700	12,600	3,910	2,280	3,180	69,400
18	7,000	18,900	4,300	7,000	7,200	47,500	59,000	11,600	3,490	1,980	2,710	51,000
19	7,000	20,600	4,100	7,000	9,400	40,000	67,400	11,200	3,330	1,850	2,560	39,200
20	7,870	55,800	4,000	7,000	11,200	40,800	65,500	10,700	3,180	1,730	2,560	27,500
21	8,320	61,700	3,900	8,780	11,200	54,500	53,800	9,730	2,860	1,850	2,560	20,000
22	8,780	53,600	4,000	9,730	13,100	71,500	42,500	8,780	2,860	1,730	2,860	16,100
23	8,780	42,500	4,500	13,100	11,600	73,500	31,700	8,780	2,710	1,730	7,300	13,600
24	7,870	31,700	5,600	16,100	12,600	61,700	26,900	9,250	2,410	1,730	53,000	12,600
25	7,000	24,900	8,400	16,700	12,100	43,300	22,400	9,730	2,410	5,000	114,000	11,200
26	6,580	20,600	11,600	15,600	11,600	33,200	20,000	9,730	2,410	3,490	98,500	10,700
27	6,580	18,300	13,600	14,600	11,200	28,200	18,900	11,200	2,710	3,020	53,600	9,730
28	6,170	15,600	13,600	13,100	9,730	25,500	17,200	9,730	2,560	2,410	34,600	9,250
29	7,430	13,600	12,600	12,000		26,200	16,700	8,320	2,560	2,120	24,900	8,320
30	9,730	10,700	10,700	10,700		26,200	15,100	9,730	3,490	1,850	18,900	7,870
31	10,200		10,700	9,730		22,400		8,780		1,850	14,100	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October					57,200	990	12,800	1.14		1.31		
November					61,700	10,200	26,900	2.40		2.68		
December					13,600	3,900	7,640	.682		.79		
January					16,700	7,000	10,200	.911		1.05		
February					13,100	3,300	7,600	.879		.71		
March					73,500	7,430	29,400	2.62		3.02		
April					67,400	15,100	38,900	3.47		3.87		
May					20,600	8,320	13,100	1.17		1.35		
June					12,600	2,410	5,850	.504		.56		
July					10,700	1,730	3,080	.273		.31		
August					114,000	1,730	15,000	1.34		1.54		
September					69,400	7,000	18,400	1.64		1.83		
The year					114,000	990	15,700	1.40		19.02		



## Susquehanna River at Sunbury

LOCATION.- Staff and chain gages at Philadelphia & Reading Railway bridge at Sunbury, Northumberland County. Zero of gages is 419.00 feet above mean sea level.

DRAINAGE AREA.- 18,200 square miles.

RECORDS AVAILABLE.- August 1916 to September 1933.

EXTREMES.- Maximum gage height during year, 12.78 feet Aug. 25; minimum, 0.40 foot Oct. 1, 3.  
1916-33: Maximum gage height, 18.0 feet Mar. 14, 1920; minimum, 0.32 foot Sept. 25-27, 1932.

Maximum stage known, 21.0 feet June 1, 1889.

REMARKS.- Record good. Gage heights obtained at this station for flood warning purposes.

Discharge is not determined.

Daily Gage Height, in feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.41	2.70	2.64	3.32	2.99	2.87	4.42	3.32	3.90	1.46	0.96	2.63
2	.42	3.67	2.54	3.44	2.83	2.78	4.67	3.15	3.61	1.48	.97	2.42
3	.42	3.93	2.48	3.20	2.74	2.70	5.38	3.30	3.33	2.24	.88	2.20
4	.51	4.09	2.47	3.12	2.67	2.70	6.19	4.16	2.97	3.57	.92	3.28
5	.65	3.79	2.42	2.98	2.59	2.63	6.56	5.13	2.77	3.03	.91	6.31
6	2.02	3.37	2.39	2.90	2.45	2.50	6.42	5.09	3.01	3.06	1.04	5.25
7	5.02	3.13	2.32	2.82	2.26	2.43	6.42	4.92	3.35	2.47	1.09	4.29
8	6.17	2.98	2.27	2.79	2.16	2.65	7.61	5.42	4.01	2.03	1.02	3.47
9	5.61	3.98	2.18	2.68	2.26	3.67	8.66	5.54	3.96	1.78	1.04	3.05
10	4.96	4.24	2.16	2.65	1.76	4.98	7.68	5.52	3.89	1.64	.98	2.59
11	3.96	5.48	2.07	2.45	2.12	4.71	6.69	5.54	3.49	1.50	1.27	2.39
12	3.12	7.05	2.01	2.45	2.02	4.01	6.23	5.51	3.02	1.36	1.44	2.38
13	2.55	6.31	1.96	2.48	1.99	3.66	6.41	5.13	2.73	1.27	1.28	2.22
14	2.22	5.63	1.88	2.38	2.34	3.63	6.94	4.70	2.47	1.19	1.44	2.04
15	2.00	4.67	1.84	2.34	2.55	4.97	6.78	4.40	2.28	1.13	1.71	2.25
16	1.89	4.12	1.47	2.29	2.76	8.61	6.32	4.20	2.08	1.12	1.42	4.82
17	1.80	3.77	1.24	2.22	2.85	9.58	6.35	4.08	1.98	1.20	1.33	8.74
18	1.85	3.70	1.23	2.26	2.66	7.88	7.93	4.05	1.90	1.15	1.22	6.82
19	2.00	3.75	1.19	2.28	2.89	6.75	8.90	4.06	1.78	1.02	1.20	5.98
20	2.22	6.70	1.20	2.51	3.00	7.16	8.41	3.84	1.68	.98	1.19	4.54
21	2.22	7.55	1.50	2.73	3.21	8.54	7.59	3.51	1.59	.98	1.15	3.84
22	2.22	7.25	1.67	3.02	3.21	9.65	6.53	3.46	1.48	.94	1.10	3.33
23	2.22	6.16	1.88	3.49	3.18	9.49	5.69	3.28	1.44	.94	1.43	3.08
24	2.09	5.32	1.85	4.15	3.14	8.27	5.10	3.19	1.39	.94	7.61	2.86
25	1.96	4.48	2.04	4.28	3.14	6.99	4.68	3.36	1.31	1.32	12.02	2.70
26	1.82	4.21	3.19	4.17	3.14	5.84	4.38	3.46	1.28	1.41	9.03	2.52
27	1.88	3.80	3.38	4.02	3.00	5.42	4.11	3.54	1.31	1.40	6.39	2.43
28	1.95	3.44	3.56	3.90	3.00	5.02	3.91	3.50	1.48	1.38	5.18	2.33
29	2.05	3.18	3.43	3.76		4.96	3.73	3.32	1.43	1.20	4.33	2.23
30	2.31	2.89	3.23	3.45		4.89	3.54	3.45	1.34	1.04	3.60	2.15
31	2.42		3.05	3.21		4.54		3.99		.99	3.13	

## Susquehanna River at Harrisburg

LOCATION.- Water-stage recorder at Nagle Street, 500 feet above sanitary dam, and at Market Street Bridge, 3,700 feet above sanitary dam, and chain gage at Walnut Street Bridge, 500 feet above Market Street, in Harrisburg, Dauphin County. Zero of gages is 290.04 feet (revised by 1929 adjustment) above mean sea level.

DRAINAGE AREA.- 24,100 square miles.

RECORDS AVAILABLE.- October 1890 to September 1933.

EXTREMES.- Maximum discharge during year, 269,000 second-feet Aug. 25 (Nagle Street gage height, 14.04 feet; Walnut Street gage height, 15.18 feet); minimum, 1,950 second-feet Oct. 4 (Nagle Street gage height, 2.85 feet; Walnut Street gage height, 2.92 feet).

1890-1933: Maximum discharge, about 615,000 second-feet May 22, 1894 (gage height, 25.7 feet at Walnut Street); minimum, about 1,600 second-feet Nov. 29, 1930 (Nagle Street gage height, 2.48 feet; Walnut Street gage height, 2.56 feet).

REMARKS.- Records good except those estimated for periods of ice effect, Dec. 13-20, Feb. 5-18, which are fair.

AVERAGE DISCHARGE.- 43 years (1890-1933), 34,900 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	2,090	22,400	21,800	30,800	29,200	25,400	48,800	31,800	45,600	8,490	5,190	24,200		
2	2,090	33,300	20,700	31,000	26,600	23,900	48,800	29,000	40,200	9,220	5,070	20,000		
3	2,140	40,800	19,300	31,000	24,600	22,300	55,300	30,000	34,100	18,300	5,300	17,800		
4	2,140	37,600	18,900	28,300	23,200	21,300	68,800	42,500	29,500	27,800	6,250	31,400		
5	2,790	37,400	18,000	27,000	22,000	20,900	78,600	52,100	25,800	28,800	5,650	58,500		
6	11,500	33,100	17,600	25,100	19,300	19,500	81,300	59,900	24,200	24,200	4,960	73,000		
7	27,700	28,500	17,200	24,200	17,900	18,400	84,000	59,900	25,800	22,300	4,840	48,800		
8	59,000	25,100	16,200	23,200	18,800	19,100	104,000	64,400	32,400	16,800	5,300	36,000		
9	62,900	25,400	15,900	22,000	18,000	25,600	129,000	78,600	36,500	13,100	5,420	28,000		
10	50,400	45,000	15,200	20,900	14,500	38,300	124,000	89,300	36,300	11,200	5,650	22,700		
11	39,300	65,800	14,800	19,500	13,000	50,400	99,500	99,500	34,100	9,810	12,300	18,900		
12	28,300	86,700	14,600	19,100	12,500	42,500	86,700	89,300	28,500	8,630	12,400	17,400		
13	20,700	89,300	14,000	20,000	12,500	36,000	94,500	78,600	23,200	7,810	11,200	16,800		
14	16,400	70,200	12,200	20,200	13,000	35,700	94,500	65,800	20,000	7,130	9,520	15,000		
15	13,600	53,700	11,000	18,200	15,500	61,000	97,000	58,400	17,400	6,630	9,070	18,800		
16	12,200	44,000	7,500	17,000	18,500	112,000	86,700	53,700	15,300	6,380	10,400	35,800		
17	12,100	37,100	5,300	17,000	20,000	181,000	94,500	56,800	14,200	6,760	8,220	95,500		
18	23,300	33,600	5,000	16,400	22,000	131,000	129,000	55,300	12,900	6,880	7,260	103,000		
19	32,800	36,900	5,300	16,800	24,400	104,000	153,000	50,400	11,900	6,880	7,130	70,200		
20	24,600	72,500	6,700	17,400	28,500	114,000	158,000	45,600	11,200	6,250	7,010	53,700		
21	22,300	109,000	8,080	18,700	33,800	148,000	131,000	40,500	10,400	5,650	6,500	40,500		
22	19,800	107,000	9,220	21,600	34,100	167,000	107,000	36,800	9,670	5,420	6,630	32,000		
23	17,800	86,700	9,960	25,400	31,500	162,000	86,700	33,600	9,070	5,540	7,870	27,000		
24	16,600	67,300	11,400	32,800	30,000	141,000	70,200	31,000	8,360	5,420	118,000	23,900		
25	15,200	53,700	12,900	38,800	28,800	109,000	58,400	32,500	7,940	5,650	249,000	22,000		
26	13,600	44,000	18,800	42,200	28,500	86,700	50,400	32,500	7,530	7,010	167,000	20,200		
27	14,000	37,900	27,500	48,800	27,500	71,600	45,600	32,800	8,360	6,360	109,000	18,200		
28	15,200	33,300	32,300	47,200	26,300	62,900	41,300	33,300	7,940	8,220	68,800	17,200		
29	15,300	28,500	33,600	44,000		56,800	37,400	32,300	8,360	7,670	48,800	16,200		
30	15,300	24,900	31,800	37,600		55,300	34,600	32,300	8,360	6,760	37,900	15,000		
31	16,600		31,800	33,100		52,100		35,800		5,770	29,800			
Month					Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October.....					62,900		2,090		20,200		0.838		0.97	
November.....					109,000		22,400		50,400		2.09		2.33	
December.....					33,600		5,000		16,300		.676		.78	
January.....					48,800		16,400		26,900		1.12		1.29	
February.....					34,100		12,500		22,700		.942		.98	
March.....					167,000		18,400		70,800		2.94		3.39	
April.....					158,000		34,600		86,000		3.57		3.98	
May.....					99,500		29,000		50,600		2.10		2.42	
June.....					45,600		7,530		20,200		.838		.94	
July.....					28,800		5,420		10,500		.436		.50	
August.....					249,000		4,840		32,200		1.34		1.54	
September.....					103,000		15,000		34,600		1.44		1.61	
The year.....					249,000		2,090		36,800		1.53		20.73	



## Susquehanna River at Marietta

LOCATION.- Water-stage recorder 420 feet above mouth of Chickies Creek and half a mile downstream from Marietta, Lancaster County. Zero of gage is 200.00 feet above mean sea level.

DRAINAGE AREA.- 25,990 square miles.

RECORDS AVAILABLE.- October 1931 to September 1933.

EXTREMES.- Maximum discharge during year, 310,000 second-feet Aug. 25 (gage height, 49.44 feet); minimum, about 770 second-feet Oct. 2 (gage height, about 31.00 feet).

1931-33: Maximum discharge, that of Aug. 25, 1933; minimum, 618 second-feet Sept. 26, 1932 (gage height, 30.89 feet).

Maximum stage known, 58.0 feet June, 1889 (discharge, about 700,000 second-feet).

REMARKS.- Records fair except those for estimated periods and for Aug. 24 to Sept. 28, which are poor. Discharge estimated for periods of ice effect, Dec. 15-24, Feb. 11-19, and for period of no gage-height record, Apr. 16-18. Flows below 8,000 second-feet regulated by York Haven Power Co. plant upstream.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,890	26,200	24,200	35,500	32,500	27,700	53,200	35,500	48,200	9,950	6,720	31,500
2	1,450	47,000	23,400	31,500	29,500	26,800	51,900	33,500	45,800	11,100	5,680	25,900
3	2,220	44,600	21,800	33,500	28,800	24,200	56,800	33,500	38,800	26,100	6,060	22,600
4	2,000	42,200	21,000	30,500	25,000	23,400	66,700	41,000	33,500	32,500	18,300	27,900
5	2,700	39,900	20,200	30,500	23,500	22,600	80,400	50,600	29,500	33,500	9,540	54,000
6	9,500	36,600	19,500	27,700	20,200	21,800	82,000	61,100	26,800	28,600	6,760	75,600
7	22,900	34,500	19,500	25,900	20,200	21,000	85,500	62,500	26,800	25,000	6,180	58,400
8	51,600	30,500	18,100	25,000	23,400	22,600	101,000	66,700	31,500	21,000	5,980	44,600
9	63,900	26,800	17,400	24,200	22,600	25,900	124,000	82,000	39,900	16,700	6,370	34,500
10	54,600	43,400	17,000	24,200	14,100	35,500	124,000	93,900	39,900	14,100	6,990	27,700
11	44,600	65,500	15,600	22,600	13,500	49,400	103,000	101,000	38,800	12,300	14,100	23,400
12	33,500	83,600	15,500	21,800	12,500	47,000	93,900	93,900	33,500	11,000	21,600	21,000
13	24,200	92,100	15,000	21,000	12,500	39,900	95,700	83,600	29,590	9,700	14,700	20,200
14	18,800	74,100	14,400	20,200	13,000	43,400	95,700	72,600	24,200	8,950	13,500	18,800
15	15,500	58,400	11,500	20,200	16,000	57,400	97,500	62,500	21,000	8,450	12,600	20,200
16	13,500	48,200	8,500	19,500	20,000	102,000	94,000	58,400	18,100	9,450	12,200	38,500
17	12,900	41,000	6,500	18,800	23,000	157,000	98,000	61,100	16,700	8,440	11,600	82,700
18	23,100	36,600	6,000	18,100	26,000	142,000	132,000	61,100	16,300	9,700	9,740	107,000
19	50,600	40,600	6,000	18,800	29,000	111,000	155,000	54,500	14,400	8,660	9,080	75,600
20	31,500	69,800	6,000	18,800	34,500	119,000	178,000	50,600	13,500	7,940	9,860	59,700
21	25,000	105,000	6,500	19,500	41,000	152,000	142,000	45,800	12,600	7,010	8,720	48,200
22	22,600	107,000	8,500	21,800	41,000	175,000	115,000	41,000	11,700	6,910	12,400	37,700
23	20,200	90,400	10,500	25,900	38,800	170,000	93,900	39,700	10,700	7,330	22,900	31,500
24	18,800	72,600	13,000	31,500	34,500	147,000	77,800	34,500	10,200	6,180	159,000	27,700
25	17,000	58,400	16,400	39,900	32,500	115,000	65,300	34,500	9,450	6,740	287,000	25,000
26	15,600	49,400	23,900	45,800	31,500	92,100	57,100	36,600	9,200	7,480	190,000	23,400
27	15,000	42,200	35,500	51,900	30,500	78,800	50,600	35,500	10,500	9,980	121,000	21,800
28	16,400	36,600	41,000	51,900	28,600	68,100	47,000	36,600	9,850	9,650	80,400	20,200
29	17,000	31,500	42,200	47,000	61,100	42,200	35,500	9,950	9,450	9,070	45,800	18,100
30	16,700	27,700	38,800	42,200	58,400	38,800	35,500	9,950	9,070	9,070	45,800	18,100
31	16,700	37,700	36,600	55,800	55,800	55,800	38,800	38,800	38,800	7,350	37,700	
Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches							
October	63,900	1,450	22,000	0.846	0.98							
November	107,000	26,200	53,400	2.05	2.29							
December	42,200	6,000	18,700	.720	.85							
January	51,900	18,100	29,000	1.12	1.29							
February	41,000	12,500	25,500	.985	1.03							
March	187,000	21,000	74,000	2.85	3.29							
April	178,000	38,800	89,900	3.46	3.66							
May	101,000	33,500	53,900	2.07	2.39							
June	48,200	9,200	23,000	.885	.99							
July	33,500	6,180	12,900	.496	.57							
August	287,000	5,680	39,700	1.55	1.76							
September	107,000	18,100	38,100	1.46	1.63							
The year	287,000	1,450	40,000	1.54	20.91							

## Chemung River at Corning, N. Y.

LOCATION.- Chain gage at Bridge Street Bridge at Corning, Steuben County. Zero of gage is 912.82 feet above mean sea level.

DRAINAGE AREA.- 1,940 square miles.

RECORDS AVAILABLE.- December 1909 to September 1933.

EXTREMES.- Maximum gage height during year, 11.6 feet Aug. 24; minimum, 2.0 feet Oct. 1-5.

1909-33: Maximum gage height, 18.0 feet (determined from hydrograph) Mar. 13, 1920; minimum, 1.8 feet Sept. 2, 3, 1921.

Maximum stage known, 20.0 feet June 1, 1889.

REMARKS.- Records fair. Gage heights obtained at this station are for flood warning purposes. Discharge is not determined.

Daily gage height, in feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0	2.9	3.2	3.4	3.0	2.7	5.3	3.4	3.5	2.6	2.2	3.2
2	2.0	4.1	3.0	2.9	3.0	2.7	5.9	3.4	3.3	2.5	2.2	3.2
3	2.0	3.6	2.9	3.3	3.0	2.6	5.6	6.0	3.2	6.5	2.2	
4	2.0	3.3	2.9	3.2	2.9	2.6	5.4	5.8	3.1	2.5	2.5	
5	2.0	3.1	3.0	3.2	2.9	2.6	6.1	4.9	3.0	3.6	2.9	4.5
6	2.3	3.0	3.0	3.0	2.9	2.5	5.3	4.6	4.4	3.4	2.6	3.8
7	3.8	3.1	2.9	3.0	2.9	2.5	6.1		3.8	3.1	2.4	3.5
8	3.0	4.0	2.9	3.0	2.9	3.5	8.4	5.2	4.4	4.4	2.9	3.2
9	2.7	3.7	3.0	2.9	2.9	6.1	6.7	4.7	4.3	2.7	2.4	3.1
10	2.4	5.2	2.9	2.8	2.9	4.5	5.9	4.8	3.6	2.6	2.5	3.0
11	2.3	6.6	2.9	2.9	2.9	3.9	5.4	4.9	3.3	2.5	2.6	2.8
12	2.3	5.6	2.8	2.9	2.9	3.3	5.2	4.5	3.1	2.5	3.1	2.7
13	2.3	4.6	2.8	3.0	2.9	3.6	7.0	4.2	2.9	2.5	2.8	2.7
14	2.2	4.4	2.8	3.2	2.8	4.6	5.7	4.1	2.8	2.6	2.6	
15	2.1	4.0	2.8	2.8	2.8	9.2	5.2	4.1	2.7	2.4	2.7	5.1
16	2.1	3.7	2.8	2.8	2.9	7.7	5.0	3.8	2.7	2.4	2.5	4.1
17	2.1	3.6	2.8	2.8	2.9	6.6	5.3	4.9	2.7	2.4	2.5	3.7
18	2.2	3.6	2.8	2.7	2.8	6.8	6.5	4.3	2.6	2.3	2.5	3.5
19	2.9	3.6	2.7	2.8	2.8	5.8	7.3	4.0	2.6	2.5	2.4	3.3
20	3.1	7.4	2.7	2.8	2.7	7.5	6.2	3.7	2.5	2.3	2.4	3.1
21	2.8	5.5	2.7	3.0	2.7	8.1	5.4	4.3	2.5	2.3	2.3	3.0
22	2.6	4.9	2.7	3.0	2.8	9.0	5.0	4.1	2.5	2.3	2.3	2.9
23	2.6	4.6	2.7	3.8	2.8	6.6	4.7	3.7	2.4	2.2	2.3	2.9
24	2.5	4.2	2.9	3.7	2.7	5.7	4.3	3.5	2.4	2.2	10.1	2.9
25	2.5	4.0		3.4	2.7	5.2	4.1	5.8	2.4	2.3	7.8	2.8
26	2.4	4.0	4.0	3.3	2.7	5.0	4.1	4.4	4.4	2.4	5.0	2.7
27	2.6	3.6	3.6	3.6	2.6	4.8	4.1	4.0	4.0	2.4		2.6
28	3.5	3.2	3.3	3.6	2.6	5.4	3.9	4.5	3.1	2.4	5.1	2.6
29	3.4	3.2	3.1	3.3		4.9	3.7	4.3	2.7	2.3	4.3	2.8
30	3.1	3.2	3.0	3.0		4.6	3.5		2.7	2.2	3.7	2.7
31	2.9		3.2	3.0		4.6		3.8		2.2	3.4	



## SUSQUEHANNA BASIN

Towanda Creek near Monroeton

LOCATION.- Chain gage at highway bridge  $1\frac{1}{4}$  miles above mouth of South Branch of Towanda Creek and  $1\frac{1}{4}$  miles southwest of Monroeton, Bradford County. Zero of gage is 774.14 feet above mean sea level.

DRAINAGE AREA.- 218 square miles.

RECORDS AVAILABLE.- January 1914 to September 1933.

DISCHARGE.- Maximum gage height during year (estimated), 10.2 feet Aug. 24 (discharge not determined); minimum discharge, 5.2 second-feet Oct. 4 (gage height, 1.72 feet).

1914-33: Maximum gage height (estimated), 11.0 feet Nov. 16, 1926 (discharge uncertain; previously published figure probably in error); minimum discharge, 0.7 second-foot Sept. 15, 17, 21, 22, 1932 (gage height, 1.38 feet).

REMARKS.- Records good except those for extremely high stages and those estimated for periods of ice effect, Dec. 16-24, Feb. 6-19, which are poor. Some regulation at low stages from power operations upstream.

AVERAGE DISCHARGE.- 15 years (1914-16, 1920-33), 297 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.6	631	128	281	139	128	246	128	308	18	12	357
2	6.8	754	169	198	131	118	342	200	218	30	11	308
3	6.0	402	101	188	144	111	342	1,880	169	506	9.8	3,490
4	5.2	308	101	148	121	105	442	790	173	192	13	9,560
5	39	252	105	156	105	98	410	518	151	71	16	2,540
6	1,040	223	93	135	100	90	417	654	442	43	12	1,180
7	453	527	88	121	103	142	3,360	712	213	32	9.3	790
8	160	467	13	118	92	1,070	1,540	484	417	27	9.8	598
9	90	415	78	108	82	530	890	433	198	24	10	450
10	65	1,370	69	111	78	335	617	450	124	22	11	364
11	58	840	62	152	73	258	475	387	93	19	33	281
12	47	562	71	165	71	235	890	308	78	16	36	235
13	40	410	203	135	71	173	890	281	65	14	27	193
14	36	322	60	114	85	301	683	335	58	14	144	451
15	32	258	44	114	118	1,180	527	246	53	12	51	1,440
16	31	213	37	111	127	683	450	223	47	17	33	2,090
17	33	264	33	83	150	580	1,060	364	44	24	24	1,120
18	160	229	31	93	180	562	2,050	213	39	20	28	741
19	450	2,490	30	124	225	692	1,250	173	33	14	160	545
20	349	1,650	30	235	295	1,720	790	156	29	13	73	410
21	240	840	31	160	322	1,780	589	246	26	12	46	295
22	178	598	33	235	275	1,200	395	160	28	9.8	50	288
23	139	410	38	425	183	790	329	124	24	8.9	422	235
24	128	349	48	275	198	554	259	148	20	13	13,200	203
25	114	295	144	213	183	372	229	562	19	67	2,940	178
26	105	258	165	223	169	372	329	308	19	50	1,250	148
27	501	193	295	275	152	364	252	240	18	31	945	131
28	402	160	101	223	188	364	203	235	16	23	1,250	173
29	281	135	135	160		281	173	188	14	22	731	144
30	213	188	139	246		235	144	240	14	16	527	111
31	173		395	131		229		554		13	425	
Month					Maximum		Minimum		Mean		Per square mile	Run-off in inches
October					1,040		5.2		180		0.826	0.95
November					2,490		135		534		2.45	2.73
December					395		30		101		.463	.53
January					425		83		176		.807	.93

## SUSQUEHANNA BASIN

Tunkhannock Creek at Dixon

LOCATION.- Chain gage at highway bridge at Dixon, Wyoming County, 3 miles northeast of Tunkhannock.

DRAINAGE AREA.- 393 square miles.

RECORDS AVAILABLE.- January 1914 to September 1933.

EXTREMES.- Maximum gage height during year, 11.10 feet Aug. 24 (discharge not determined); minimum discharge, 26 second-feet Oct. 4 (gage height, 1.05 feet).

1914-33: Maximum gage height, 13.1 feet Sept. 30, 1924 (discharge uncertain; previously published figure probably in error); minimum discharge, 9.0 second-feet Aug. 12, 1930 (gage height, 0.73 foot).

REMARKS.- Records fair except those for extremely high stages and those estimated for periods of ice effect, Dec. 16-22, Feb. 10-19, 27, 28, which are poor. Discharge estimated for periods of missing gage height record, May 6, 21, June 4, 27, July 2, 4, July 23 to Aug. 5, Aug. 28, Sept. 24. Some regulation from storage in natural and artificial lakes and from operation of gristmills upstream.

AVERAGE DISCHARGE.- 15 years (1918-33), 544 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	3,660	318	718	338	453	1,420	328	214	64	50	40
2	30	2,100	308	549	359	453	1,610	298	165	150	48	29
3	29	1,160	252	483	380	442	1,810	391	152	343	45	340
4	29	850	284	477	513	442	2,130	644	150	300	45	4,240
5	186	744	343	494	270	380	1,330	425	167	210	75	2,740
6	5,880	644	308	364	214	343	1,080	500	1,570	146	75	1,420
7	3,410	644	289	328	280	414	1,610	644	1,080	102	73	1,080
8	1,280	612	280	328	463	1,970	1,610	442	925	85	58	778
9	744	612	261	318	257	1,420	1,200	397	644	71	58	580
10	549	3,360	181	284	200	710	962	644	419	68	91	430
11	419	2,280	181	270	180	453	850	549	318	64	244	370
12	348	1,330	214	252	160	512	1,690	436	243	56	149	313
13	280	1,080	196	235	150	518	2,630	397	340	52	100	284
14	227	850	181	313	150	1,380	3,670	386	196	46	185	374
15	196	744	155	338	190	1,710	2,600	333	158	46	107	1,230
16	174	677	140	289	210	1,420	1,420	318	135	43	104	4,180
17	174	1,490	130	328	240	606	3,320	364	152	91	89	3,780
18	462	1,040	125	448	280	459	3,400	293	130	63	68	1,710
19	448	4,870	120	424	350	1,020	3,530	218	111	43	52	1,200
20	359	3,930	120	107	654	1,610	1,710	196	95	34	46	1,000
21	280	2,130	125	93	1,080	3,580	1,240	300	79	30	89	1,420
22	231	1,420	140	154	888	3,260	1,000	239	66	49	877	549
23	206	1,120	143	1,710	644	2,020	778	185	87	60	1,100	580
24	192	925	192	1,200	710	1,330	710	164	71	90	9,340	500
25	181	814	293	925	612	1,080	612	351	66	150	5,080	436
26	174	710	413	1,000	549	1,080	518	270	71	100	2,500	375
27	530	413	280	744	500	1,420	518	214	100	80	1,420	343
28	308	348	413	677	480	1,080	465	196	107	60	900	308
29	227	359	348	580		925	402	178	93	65	158	270
30	188	323	367	408		814	359	270	58	60	91	235
31	162		1,430	391		850		313		55	55	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	5,880	29	572	1.46	1.68
November.....	4,870	323	1,370	3.49	3.89
December.....	1,430	120	275	1.700	.81
January.....	1,710	93	491	1.25	1.44
February.....	1,080	150	366	1.01	1.06
March.....	3,580	343	1,100	2.80	3.23
April.....	3,670	359	1,540	3.92	4.37
May.....	644	164	351	.893	1.03
June.....	1,570	58	272	.692	.77
July.....	343	30	92.8	.235	.27
August.....	9,340	45	754	1.92	2.21
September.....	4,240	29	1,040	2.65	2.96
The year.....	9,340	29	686	1.75	23.71



SUSQUEHANNA BASIN

Wapwallopen Creek near Wapwallopen

LOCATION.- Water-stage recorder at Harts Bridge 2½ miles southeast of Wapwallopen, Luzerne County, and 3½ miles upstream from mouth of creek.

DRAINAGE AREA.- 46 square miles.

RECORDS AVAILABLE.- October 1919 to September 1933.

EXTREMES.- Maximum gage height during year, 7.31 feet Aug. 24 (discharge not determined); minimum discharge, 4.8 second-feet Oct. 3 (gage height, 0.87 foot).

1919-33: Maximum gage height (estimated), 7.9 feet Sept. 30, 1924 (discharge uncertain; previously published figure probably in error); minimum discharge, 3 second-feet Sept. 27, 28, Oct. 30, 31, 1922 (gage height, 0.76 foot).

REMARKS.- Records fair except those for extremely high stages, which are poor. Discharge estimated for periods of ice effect, Nov. 28-30, Dec. 10-25, Jan. 2, 3, 14-16, Feb. 5-7, 10-20, Mar. 11, and for days of missing gage height record, Nov. 10, 11, May 7, 8. Some regulation at low stages from operation of gristmills upstream. Water-stage recorder, well, and shelter furnished by United States Engineer Office, Baltimore, Md.

AVERAGE DISCHARGE.- 13 years (1920-33), 60.9 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.6	208	52	47	43	66	97	52	44	15	25	74
2	5.2	179	47	43	45	62	96	49	36	55	22	65
3	4.8	113	44	41	42	65	102	72	34	280	28	67
4	5.1	89	44	43	40	65	111	71	31	102	28	465
5	30	77	42	41	39	57	103	52	28	61	22	240
6	420	69	38	36	38	51	93	66	34	44	17	153
7	144	65	37	36	52	54	131	79	29	35	16	119
8	69	57	36	33	112	128	112	61	48	29	16	98
9	47	52	50	34	79	96	97	61	34	29	14	85
10	38	152	30	33	59	84	93	84	30	24	23	74
11	30	110	30	36	50	78	92	69	25	22	95	62
12	27	88	33	73	46	74	203	62	23	20	40	56
13	24	77	30	54	44	66	178	62	22	17	28	50
14	21	69	28	40	43	137	163	61	19	16	42	74
15	19	62	27	35	64	190	140	59	17	13	30	263
16	17	57	26	42	58	149	127	58	16	17	23	797
17	18	123	25	39	56	125	222	69	17	25	20	507
18	33	83	24	41	56	114	219	53	15	17	21	308
19	30	206	24	52	60	130	172	47	16	14	20	208
20	24	199	24	53	100	196	150	43	13	13	15	160
21	20	140	25	42	123	364	119	88	12	11	16	129
22	18	115	27	75	117	284	106	61	12	12	204	114
23	17	96	32	80	93	210	92	53	12	12	407	100
24	20	89	50	62	97	169	83	66	9.8	233	1,660	112
25	18	79	74	56	89	139	77	93	9.2	232	722	91
26	16	73	47	60	88	133	95	67	16	80	352	77
27	61	61	47	56	83	125	80	56	49	53	231	66
28	43	59	58	55	82	125	67	54	47	43	163	77
29	34	56	48	50		109	61	50	21	33	125	66
30	30	53	43	53		96	55	58	16	26	98	54
31	28		54	45		89		52		25	83	
Month						Maximum	Minimum	Mean	Per square mile		Run-off in inches	
October.....						420	4.8	42.6	0.924		1.07	
November.....						206	52	98.5	2.14		2.39	
December.....						74	24	37.9	.824		.95	
January.....						90	33	47.9	1.04		1.20	
February.....						123	38	67.8	1.47		1.53	
March.....						364	51	124	2.70		3.11	
April.....						222	55	118	2.57		2.87	
May.....						93	43	62.2	1.35		1.56	
June.....						49	9.2	24.5	.533		.59	
July.....						280	11	51.9	1.13		1.30	
August.....						1,660	14	149	3.24		3.74	
September.....						797	50	160	3.48		3.88	
The year.....						1,660	4.8	81.9	1.78		24.19	

## SUSQUEHANNA BASIN

West Branch of Susquehanna River at Bower

LOCATION.- Water-stage recorder at highway bridge at Bower, Clearfield County, 4.8 miles downstream from Mahaffey and mouth of Chest Creek. Zero of gage is 1,207.22 feet above mean sea level.

DRAINAGE AREA.- 315 square miles.

RECORDS AVAILABLE.- October 1913 to September 1933.

EXTREMES.- Maximum discharge during year, 5,770 second-feet Mar. 15 (gage height, 11.48 feet); minimum, 22 second-feet Oct. 4 (gage height, 3.76 feet).

1913-33: Maximum discharge (estimated), 13,000 second-feet Sept. 5, 1926; maximum gage height, 14.6 feet Mar. 12, 1920 (affected by ice); minimum discharge, 16 second-feet Sept. 29, Oct. 1, 6, 13, 1930 (gage height, 3.66 feet).

REMARKS.- Records good except those for extremely high stages and those estimated for periods of ice effect, Dec. 11-23, Feb. 11-19, and for periods of missing gage-height record, Dec. 14-22, Jan. 22 to Feb. 2, which are fair.

AVERAGE DISCHARGE .- 20 years (1913-33), 569 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	154	115	621	538	576	1,280	238	547	56	50	27
2	23	179	110	464	506	484	1,320	468	435	64	37	27
3	23	124	104	439	423	419	1,200	1,730	361	448	35	28
4	23	94	103	415	291	368	1,120	1,320	316	211	50	42
5	25	81	95	597	266	320	920	894	324	98	45	93
6	141	80	95	520	245	265	992	1,080	282	74	33	90
7	211	76	103	427	299	277	2,780	1,770	245	63	28	56
8	91	31	130	388	796	532	2,040	1,900	798	54	27	41
9	58	79	104	349	528	580	1,480	2,840	444	50	27	35
10	39	499	60	334	354	467	1,200	4,160	295	50	32	33
11	42	432	54	309	270	327	920	3,140	245	47	91	29
12	36	265	51	463	230	388	1,840	2,040	195	41	85	28
13	32	209	50	331	230	562	1,280	1,560	162	38	59	30
14	33	155	49	331	260	4,300	1,010	1,770	141	37	42	37
15	34	135	49	300	450	5,380	830	1,560	129	36	34	302
16	33	120	48	270	400	3,750	774	1,510	121	37	29	199
17	39	126	48	271	350	2,170	1,120	2,040	119	39	27	103
18	87	135	49	261	310	1,520	1,160	1,440	114	38	26	67
19	81	559	50	527	290	2,470	940	1,080	96	34	27	54
20	70	1,040	51	688	475	3,140	975	868	85	33	25	68
21	58	572	60	476	667	2,840	768	792	79	30	24	76
22	46	407	108	722	455	2,120	662	585	73	28	24	68
23	37	295	500	1,240	459	1,560	556	476	67	29	24	70
24	42	258	1,900	1,120	423	1,160	489	439	61	35	112	76
25	46	225	1,460	810	663	914	439	764	58	72	174	77
26	45	197	916	1,440	1,220	774	459	574	63	55	86	58
27	58	116	646	1,560	798	656	415	875	62	46	55	54
28	92	113	556	1,050	662	792	346	823	60	37	45	80
29	104	135	451	798		866	302	734	55	33	37	115
30	80	124	403	605		856	271	881	54	30	34	79
31	60		670	552		1,050		723		158	27	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October					211	23	58.5	0.186		0.21		
November					1,040	76	236	.749		.84		
December					1,900	48	296	.940		1.08		
January					1,440	261	596	1.89		2.18		
February					1,320	230	459	1.46		1.52		
March					5,380	265	1,350	4.29		4.95		
April					2,780	271	990	3.14		3.60		
May					4,160	238	1,330	4.22		4.86		
June					798	54	203	.644		.72		
July					448	28	67.7	.215		.25		
August					174	24	46.8	.140		.17		
September					302	27	71.4	.227		.25		
The year					5,380	23	476	1.51		20.53		



## West Branch of Susquehanna River at Renovo

LOCATION.- Water-stage recorder at highway bridge at Renovo, Clinton County. Zero of gage is 634.03 feet above mean sea level.

DRAINAGE AREA.- 2,990 square miles.

RECORDS AVAILABLE.- July 1895 to December 1903; October 1905 to September 1933.

EXTREMES.- Maximum discharge during year, 52,000 second-feet Mar. 15 (gage height, 11.09 feet); minimum, 162 second-feet Oct. 4 (gage height, -0.80 foot).

1895-1903, 1905-33: Maximum discharge (estimated), 106,000 second-feet Apr. 30, 1909; maximum gage height, 25.0 feet Feb. 28, 1910 (affected by ice); minimum discharge, 80 second-feet Dec. 6, 1908 (gage height, -1.1 feet).

Maximum stage known, 28.8 feet June 1, 1889 (discharge not determined).

REMARKS.- Records good except those estimated for periods of ice effect, Dec. 12-24, Feb. 9-14, which are poor. Records based on chain-gage readings for periods of recorder failure, May 25, June 6, June 24 to July 6.

AVERAGE DISCHARGE.- 21 years (1908-15, 1919-33), 4,830 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	275	825	2,160	4,480	4,360	3,920	7,750	2,890	7,020	880	458	439
2	222	2,100	2,080	4,050	4,250	3,800	9,800	2,890	5,930	938	439	414
3	187	1,940	1,940	3,490	4,050	3,280	10,600	6,870	4,940	3,800	518	479
4	175	1,870	1,800	3,360	3,600	2,980	10,200	15,800	4,140	5,880	899	844
5	212	1,360	1,660	3,600	3,080	2,710	9,410	12,700	3,810	3,380	909	1,300
6	482	1,170	1,530	3,380	2,460	2,460	8,380	11,500	6,350	2,010	676	1,100
7	1,290	1,160	1,430	3,280	2,300	2,300	17,700	17,100	5,800	1,660	518	815
8	1,000	1,470	1,470	2,890	3,070	4,440	25,900	17,100	6,860	1,350	439	752
9	833	1,530	1,420	2,620	3,100	6,870	18,600	18,100	8,510	1,170	408	668
10	688	6,650	1,240	2,540	2,600	6,320	14,100	19,700	6,730	1,020	420	553
11	504	10,600	1,150	2,300	2,300	5,180	11,400	22,100	5,180	880	618	484
12	397	7,790	1,000	2,380	2,200	4,480	12,400	16,600	4,250	769	709	439
13	336	5,350	860	2,300	2,230	4,140	15,100	13,100	3,600	701	644	402
14	290	4,030	760	2,080	2,400	7,460	13,100	11,400	2,980	628	553	408
15	245	3,280	710	2,160	3,280	38,800	10,600	10,600	2,620	620	560	575
16	245	2,710	670	2,010	2,890	43,700	9,050	9,050	2,300	652	504	786
17	270	2,460	650	2,160	2,800	26,700	9,800	9,910	2,080	620	420	1,010
18	394	2,230	630	2,160	2,800	17,100	12,600	11,400	1,870	575	363	1,090
19	725	2,850	620	2,290	2,380	15,100	13,100	9,050	1,670	531	374	778
20	761	10,500	610	4,560	2,380	23,000	11,400	7,750	1,530	477	352	636
21	676	10,500	630	5,300	2,980	26,600	9,800	7,450	1,380	470	305	590
22	620	7,610	670	5,060	2,980	24,500	8,380	6,590	1,240	420	290	620
23	531	5,800	900	8,320	3,080	19,100	7,160	5,420	1,120	439	316	612
24	484	4,700	2,500	9,410	2,800	13,600	6,190	4,940	1,070	524	982	628
25	458	4,030	9,610	7,750	2,620	10,600	5,550	7,090	1,030	1,500	1,500	605
26	439	3,490	8,150	7,300	3,440	8,710	5,180	6,730	1,820	1,870	1,300	597
27	518	2,800	6,190	8,410	4,940	7,450	4,590	6,590	1,670	1,140	1,230	545
28	744	2,230	5,420	7,750	4,250	7,160	4,140	7,160	1,490	833	948	518
29	806	2,230	4,820	6,730		6,730	3,600	7,450	1,260	644	701	504
30	709	2,230	4,250	5,800		6,460	3,180	8,380	1,050	553	560	470
31	668		4,250	5,060		6,460		8,380		480	477	
Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches							
October	1,290	175	522	0.175	0.20							
November	10,600	825	3,910	1.31	1.46							
December	9,610	610	2,320	.776	.89							
January	9,410	2,010	4,350	1.45	1.67							
February	4,940	2,200	3,060	1.02	1.06							
March	43,700	2,300	11,700	3.91	4.51							
April	25,900	3,180	10,300	3.44	3.84							
May	22,100	2,890	10,400	3.48	4.01							
June	8,510	1,030	3,380	1.13	1.26							
July	5,880	420	1,210	.405	.47							
August	1,500	290	625	.209	.24							
September	1,300	402	655	.219	.24							
The year	43,700	175	4,370	1.46	19.85							

## West Branch of Susquehanna River at Lock Haven

LOCATION.- Chain gage at Jay Street Bridge at Lock Haven, Clinton County. Zero of gage is 535.00 feet above mean sea level.

DRAINAGE AREA.- 3,350 square miles.

RECORDS AVAILABLE.- October 1913 to August 1923; August 1925 to September 1933.

EXTREMES.- Maximum gage height during year, 14.08 feet Mar. 16; minimum, 0.83 foot Oct. 4.

1913-23, 1925-33: Maximum gage height, 26.8 feet (caused by ice) Feb. 21, 1918; minimum, 0.60 foot Sept. 25, 1932.

Maximum stage known, 29.8 feet during flood of 1889.

REMARKS.- Records good. Gage heights obtained at this station are for flood warning purposes. Discharge is not determined.

Daily gage height, in feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.17	1.83	2.96	4.01	4.02	3.31	4.92	3.28	5.20	1.95	1.32	1.55
2	1.04	2.27	2.74	3.91	3.87	3.58	5.66	3.38	4.70	1.95	1.28	1.46
3	.94	2.92	2.67	3.71	3.74	3.50	5.98	4.26	4.24	3.24	1.26	1.49
4	.84	2.70	2.86	3.53	3.58	3.40	5.96	7.38	4.02	4.72	1.67	2.89
5	.92	2.41	2.89	3.59	3.40	3.24	5.78	6.78	3.82	4.02	1.86	2.77
6	1.42	2.21	2.75	3.56	3.16	3.10	5.51	6.16	4.06	3.20	1.70	2.64
7	1.68	2.14	2.44	3.49	2.98	3.08	5.88	7.17	4.70	2.78	1.50	2.41
8	2.19	2.28	2.40	3.34	3.11	3.46	9.38	7.74	4.62	2.46	1.32	2.24
9	1.85	2.45	2.41	3.21	2.98	4.78	8.24	7.38	5.36	2.28	1.25	1.97
10	1.78	3.34	2.35	3.11	2.90	4.64	7.08	8.04	5.04	2.16	1.28	1.79
11	1.59	6.12	1.96	3.02	2.82	4.54	6.52	8.48	4.60	2.04	1.54	1.65
12	1.31	5.45	1.82	3.00	3.26	4.30	6.24	7.68	4.05	1.92	1.52	1.55
13	1.19	4.67	2.12	3.08	3.46	4.02	7.10	6.71	3.74	1.80	1.56	1.48
14	1.10	3.95	2.13	2.95	3.66	4.21	6.90	6.35	3.42	1.68	1.64	1.57
15	1.04	3.53	2.07	2.94	3.72	10.55	6.29	5.98	3.18	1.58	1.55	1.90
16	.95	3.25	2.04	3.00	2.78	13.43	6.10	5.74	3.01	1.56	1.40	2.02
17	1.01	3.10	2.03	3.00	3.44	9.95	5.96	5.62	2.94	1.55	1.40	2.76
18	1.25	3.00	2.07	2.92	3.38	8.08	6.72	6.14	2.75	1.51	1.25	2.55
19	1.63	3.13	2.12	2.89	3.21	7.61	7.01	5.57	2.57	1.52	1.18	2.34
20	1.79	3.77	2.15	3.54	3.13	8.61	6.51	5.20	2.48	1.38	1.18	2.08
21	1.67	6.39	2.13	4.15	3.45	9.51	6.07	4.92	2.56	1.35	1.16	1.92
22	1.50	5.32	2.28	4.16	3.78	9.38	5.64	4.72	2.27	1.34	1.11	1.86
23	1.48	4.75	2.33	4.84	3.44	8.35	5.21	4.38	2.16	1.32	1.18	1.82
24	1.43	4.45	2.58	5.08	3.50	7.24	4.74	4.14	2.08	1.34	2.94	1.82
25	1.38	4.08	6.84	5.21	3.41	6.28	4.49	4.38	2.02	1.56	2.75	1.76
26	1.33	3.64	5.18	4.98	3.65	5.81	4.28	4.82	2.25	2.50	2.55	1.69
27	1.47	3.28	4.61	5.21	4.06	5.25	4.11	4.72	2.63	2.33	2.47	1.63
28	1.66	3.04	4.34	5.28	4.04	5.02	3.86	4.62	2.32	1.90	2.44	1.59
29	1.82	2.96	4.11	4.98		4.84	3.68	4.90	2.18	1.67	2.02	1.53
30	1.75	2.99	3.94	4.44		4.72	3.48	5.18	2.08	1.51	1.78	1.50
31	1.63		3.85	4.22		4.72		5.55		1.40	1.65	



## West Branch of Susquehanna River at Williamsport

LOCATION.- Water-stage recorder at highway bridge at Williamsport, Lycoming County. Zero of gage is 494.55 feet above mean sea level.

DRAINAGE AREA.- 5,670 square miles.

RECORDS AVAILABLE.- March 1895 to September 1933.

EXTREMES.- Maximum discharge during year, 71,800 second-feet Mar. 16 (gage height, 14.30 feet); minimum, 374 second-feet Oct. 1 (gage height, -0.18 foot).

1895-1933: Maximum discharge, about 147,000 second-feet Mar. 5, 1923; maximum gage height, 21.7 feet Mar. 1, 1902 (affected by ice); minimum discharge, 231 second-feet Sept. 12, 13, 1932 (gage height, -0.42 foot).

Maximum stage known, 32.4 feet June 1, 1889 (discharge not determined).

REMARKS.- Records good except those estimated for periods of ice effect, Dec. 14-23, Feb. 10-14, and those for July, August, and September, which are fair.

AVERAGE DISCHARGE.- 38 years (1895-1933), 8,950 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	388	1,930	4,120	9,600	8,380	6,420	12,800	6,420	16,200	2,010	1,010	2,610
2	482	4,390	4,010	7,600	7,600	6,140	15,800	6,140	13,200	2,070	963	2,500
3	529	5,070	4,010	7,000	7,290	5,730	18,100	12,000	11,200	6,980	963	2,850
4	498	4,260	4,120	6,850	6,700	5,340	18,500	23,200	9,350	12,300	1,080	18,400
5	554	3,640	4,010	7,000	6,140	4,840	18,500	25,400	8,580	9,690	1,450	15,800
6												
7	2,490	2,970	3,680	7,290	4,600	4,360	17,100	21,900	10,300	6,420	1,640	9,910
8	3,640	2,760	3,360	6,850	4,240	4,120	23,000	24,900	12,500	4,600	1,290	7,140
9	2,760	3,500	3,150	6,140	4,600	7,120	41,000	29,100	13,200	3,670	1,080	6,850
10	2,040	3,640	2,950	5,470	5,400	13,200	37,200	28,000	15,800	2,930	927	4,360
11	1,580	8,900	2,800	4,970	4,500	13,200	29,100	30,200	14,000	2,530	951	3,680
12												
13	1,150	25,400	2,210	4,720	4,150	10,600	23,900	31,800	10,800	2,180	1,650	3,150
14	861	20,900	2,010	4,600	4,000	9,690	22,000	29,600	9,020	1,920	1,770	2,720
15	697	14,900	1,800	4,120	4,100	8,700	27,500	23,900	7,600	1,700	1,810	2,430
16	653	10,800	1,800	3,680	4,600	10,500	27,000	20,900	6,420	1,520	4,120	2,500
17	594	8,580	1,600	3,900	7,440	32,100	23,400	19,000	5,600	1,410	2,440	5,560
18												
19	577	7,140	1,530	3,680	6,850	67,800	20,400	17,100	4,970	1,590	1,710	9,980
20	561	6,280	1,500	4,010	5,860	49,800	21,500	16,700	4,480	1,650	1,480	13,800
21	807	5,730	1,500	4,240	5,600	34,000	31,400	18,100	4,010	1,390	1,430	9,020
22	2,030	7,110	1,520	4,360	5,600	27,500	34,000	17,100	3,570	1,260	1,260	6,850
23	2,240	20,400	1,550	5,160	5,340	34,500	29,600	14,900	3,260	1,200	1,250	5,340
24												
25	1,880	23,900	1,580	7,750	5,860	44,800	24,900	13,600	2,950	1,100	1,100	4,360
26	1,420	19,500	1,620	6,380	5,860	45,400	20,900	12,800	2,650	1,040	1,060	3,790
27	1,230	14,500	1,780	11,400	6,000	38,600	17,100	10,800	2,430	1,260	1,560	3,360
28	1,160	11,500	2,590	15,300	6,140	29,600	14,500	9,690	2,190	1,160	43,400	3,150
29	1,070	9,690	6,380	14,500	6,000	23,400	12,300	10,900	2,140	1,430	25,800	2,950
30												
31	1,020	8,380	11,900	13,200	5,470	19,500	11,200	12,800	2,230	2,460	12,800	2,680
	1,200	7,140	11,900	13,600	6,140	16,700	10,400	12,300	3,050	2,840	8,700	2,440
	1,900	5,600	9,690	14,000	7,000	14,900	9,020	11,900	3,050	2,070	7,290	2,280
	2,130	4,240	9,020	11,900	13,600	8,060	12,300	2,630	1,530	5,470	2,190	
	1,830	4,120	8,380	10,400	12,300	7,290	14,500	2,260	1,280	4,010	2,070	
	1,610		9,020	9,350	11,900		18,100		1,090	3,150		
Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches							
October	3,640	388	1,330	0.235	0.27							
November	25,400	1,930	9,220	1.63	1.82							
December	11,900	1,500	4,100	.723	.83							
January	15,500	3,680	7,770	1.37	1.58							
February	8,580	4,000	5,760	1.02	1.06							
March	67,800	4,120	20,200	3.56	4.10							
April	41,000	7,290	20,900	3.69	4.12							
May	31,800	6,140	17,900	3.16	3.64							
June	16,200	2,140	6,970	1.23	1.37							
July	13,200	1,040	2,780	.490	.56							
August	43,400	927	4,660	.822	.95							
September	18,400	2,070	5,480	.966	1.08							
The year	67,800	388	8,940	1.58	21.38							

## Clearfield Creek at Dimeling

LOCATION.- Water-stage recorder at highway bridge at Dimeling, Clearfield County, 400 feet below mouth of Little Clearfield Creek. Zero of gage is 1,145.56 feet above mean sea level.

DRAINAGE AREA.- 370 square miles.

RECORDS AVAILABLE.- October 1913 to September 1933.

EXTREMES.- Maximum discharge during year, 6,950 second-feet Mar. 15 (gage height, 10.63 feet); minimum, 20 second-feet Oct. 3 (gage height, 3.30 feet).

1913-33: Maximum discharge, 11,700 second-feet Mar. 13, 1920; maximum gage height, 18.5 feet Mar. 11, 1920 (affected by ice); minimum discharge, 6 second-feet Oct. 1, 9, 1926 (gage height, 3.15 feet).

REMARKS.- Records good except those estimated for periods of ice effect, Dec. 11-22, Feb. 5-19, which are poor. Discharge estimated from once-daily chain gage readings, for period of missing recorder record, Oct. 21-28. Some regulation at low stages from power operations upstream.

AVERAGE DISCHARGE.- 20 years (1913-33), 585 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	89	139	777	542	516	1,270	306	558	68	50	51
2	30	124	128	502	547	442	1,270	346	447	188	47	48
3	22	136	137	498	500	398	1,200	2,670	377	1,070	51	54
4	28	103	135	511	352	352	1,130	2,050	320	437	54	112
5	29	86	126	564	260	313	990	1,310	334	227	51	111
6	84	77	118	521	240	263	936	1,510	491	153	50	157
7	180	76	120	411	310	280	2,620	2,430	310	122	46	98
8	135	73	126	381	550	518	2,230	2,280	943	103	40	78
9	76	78	116	340	350	621	1,640	3,580	731	94	42	70
10	53	786	104	324	270	495	1,620	4,620	402	85	51	63
11	42	878	100	302	230	343	1,270	3,710	313	76	87	51
12	35	452	90	446	220	381	1,550	2,380	256	66	143	44
13	34	324	85	413	230	426	1,430	1,860	214	62	90	42
14	32	247	80	316	300	3,970	1,130	2,000	188	55	63	49
15	32	209	75	328	500	6,350	976	1,770	172	52	53	173
16	34	187	70	276	420	4,200	894	1,550	153	53	60	212
17	38	182	70	320	400	2,480	1,270	3,060	148	51	56	131
18	73	195	70	290	390	1,750	1,200	1,950	133	48	43	126
19	132	422	72	454	400	2,760	990	1,430	122	48	41	97
20	119	1,160	75	787	1,120	3,950	1,130	1,160	112	45	38	108
21	83	707	85	526	821	3,200	1,020	1,100	101	43	35	118
22	70	430	110	824	575	2,480	862	822	90	47	34	99
23	58	259	310	1,510	381	1,790	732	633	90	50	41	96
24	50	309	1,260	1,100	336	1,390	627	618	80	212	178	101
25	46	273	1,260	868	423	1,130	553	983	78	414	450	96
26	41	230	829	1,430	907	962	553	745	92	181	181	80
27	54	167	592	1,510	669	942	547	962	139	108	108	74
28	86	118	553	1,200	358	962	438	855	119	84	82	89
29	108	128	511	962	962	962	377	796	84	70	67	129
30	94	137	466	752	881	881	336	916	70	63	60	103
31	78		843	615	269			713		57	54	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October					180	22	64.6	0.175		0.20		
November					1,160	73	290	.784		.87		
December					1,260	70	286	.773		.89		
January					1,510	276	647	1.75		2.02		
February					1,120	220	457	1.24		1.29		
March					6,350	263	1,490	4.03		4.65		
April					2,620	336	1,090	2.95		3.29		
May					4,620	305	1,640	4.43		5.11		
June					943	70	258	.692		.77		
July					1,070	43	142	.384		.44		
August					450	34	78.9	.213		.25		
September					212	42	95.3	.268		.29		
The year					6,350	22	547	1.48		20.07		



SUSQUEHANNA BASIN

Driftwood Branch of Sinnemahoning Creek at Sterling Run

LOCATION.- Staff gage 800 feet above highway bridge at Sterling Run, Cameron County, and 1,100 feet above mouth of Sterling Run. Zero of gage is 894.60 feet above mean sea level.

DRAINAGE AREA.- 270 square miles.

RECORDS AVAILABLE.- September 1913 to September 1933.

EXTREMES - Maximum discharge during year, 5,830 second-feet Mar. 15 (gage height, 6.10 feet); minimum, 8.4 second-feet Aug. 22 (gage height, 1.44 feet).

1913-33: Maximum discharge, about 12,700 second-feet Feb. 12, 1925; maximum gage height, 10.4 feet (from graph based on gage readings affected by ice) Mar. 15, 1920, at a site 800 feet downstream; minimum discharge, 0.4 second-foot Sept. 7, 12, 13, 14, 1930.

REMARKS.- Records good except those estimated for periods of ice effect, Dec. 10-23, Feb. 10-19, which are poor. Slight regulation from power operations upstream.

AVERAGE DISCHARGE.- 14 years (1919-33), 452 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	272	213	284	334	386	1,270	230	334	69	13	12
2	14	337	197	280	334	334	1,680	294	289	76	16	16
3	13	201	177	289	280	334	1,540	1,180	248	660	31	25
4	11	147	155	334	270	284	1,270	1,680	226	335	69	71
5	12	123	144	308	197	257	1,040	1,150	359	205	43	38
6	205	120	133	230	177	213	990	1,360	266	130	21	28
7	192	177	133	239	197	248	3,630	1,990	243	106	20	19
8	74	209	170	217	334	946	2,650	1,610	874	85	12	14
9	43	204	116	205	221	990	1,470	1,270	606	69	13	13
10	30	2,150	100	193	180	680	1,040	1,100	444	57	15	11
11	26	1,380	88	181	173	572	760	990	334	47	36	10
12	22	760	74	248	170	444	1,540	803	266	38	39	9.5
13	21	473	68	166	173	414	1,610	846	205	36	26	9.0
14	19	359	64	217	183	1,240	1,210	760	181	25	34	12
15	19	294	62	261	250	4,760	893	680	158	28	29	48
16	17	239	60	213	220	3,670	720	680	130	94	18	36
17	18	257	60	181	210	1,680	893	803	116	47	15	24
18	47	213	60	165	200	1,100	1,210	893	91	31	13	18
19	74	1,270	62	417	185	1,100	1,270	680	79	28	11	14
20	47	2,150	66	680	257	1,540	893	572	76	24	11	13
21	34	1,310	74	606	308	2,150	680	444	66	22	9.0	11
22	29	803	90	842	334	1,990	537	359	54	38	8.4	14
23	28	572	250	990	266	1,470	444	299	48	30	12	16
24	36	473	280	940	248	990	386	308	43	29	71	19
25	39	359	619	760	266	720	359	572	49	64	65	20
26	34	308	930	680	473	606	359	414	257	41	25	18
27	45	221	643	606	473	505	284	414	158	29	15	15
28	94	201	572	505	444	505	239	359	97	21	13	15
29	66	189	444	473	473	473	217	359	59	17	12	18
30	54	217	386	386	505	505	197	414	57	16	12	16
31	47	444	359	359	606	606		396		15	11	

Month				Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....				205	11	46.1	0.171	0.20
November.....				2,150	120	533	1.97	2.20
December.....				930	60	243	.900	1.04
January.....				990	155	401	1.49	1.72
February.....				473	170	263	.974	1.01
March.....				4,760	213	1,020	3.78	4.36
April.....				3,630	197	1,040	3.85	4.29
May.....				1,990	230	771	2.86	3.30
June.....				874	43	214	.793	.88
July.....				660	15	81.0	.300	.35
August.....				71	8.4	23.8	.088	.10
September.....				71	9.0	20.1	.074	.08
The year.....				4,760	8.4	389	1.44	19.53

North Bald Eagle Creek at Beech Creek Station

LOCATION.- Water-stage recorder at highway bridge just below mouth of Beech Creek at Beech Creek Station, Clinton County.

DRAINAGE AREA.- 565 square miles.

RECORDS AVAILABLE.- June 1910 to September 1933.

EXTREMES.- Maximum discharge during year, 6,760 second-feet Mar. 15 (gage height, 6.69 feet); minimum, 108 second-feet Oct. 1 (gage height, 1.46 feet).

1910-33: Maximum discharge (estimated), 18,600 second-feet June 17, 1916 (gage height, 12.5 feet); minimum, 15 second-feet Jan. 9, 1931 (gage height, 1.12 feet).

REMARKS.- Records fair except those for periods affected by grass, Oct. 1 to Nov. 9, June 11 to Sept. 30, and those estimated for periods of ice effect, Dec. 1-25, Feb. 9-15, which are fair. Some regulation at low stages from operation of gristmills upstream.

AVERAGE DISCHARGE.- 23 years (1910-33), 808 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	114	520	448	926	685	513	1,220	619	1,310	254	180	283
2	111	632	414	855	692	488	1,300	598	1,080	261	188	270
3	116	419	408	762	627	465	1,300	1,380	908	852	205	364
4	116	342	392	703	538	448	1,300	1,150	787	454	212	1,280
5	140	309	382	677	513	419	1,180	1,010	874	323	191	768
6	413	287	361	592	501	392	1,160	1,310	1,520	283	180	519
7	332	283	361	538	495	424	3,240	1,600	1,080	262	177	430
8	198	278	361	501	592	1,770	2,790	1,660	1,470	254	174	371
9	163	302	318	470	520	1,410	2,130	2,200	1,090	248	180	337
10	147	3,030	287	453	470	1,070	1,890	3,180	917	238	220	314
11	144	1,850	300	430	450	890	1,520	2,520	787	234	382	296
12	141	1,280	323	468	450	837	2,390	2,070	685	223	258	287
13	141	954	300	371	480	796	1,950	1,770	612	220	212	270
14	137	762	260	382	560	2,860	1,830	1,530	551	216	198	296
15	137	655	230	392	700	5,560	1,560	1,280	501	209	202	622
16	128	585	200	352	596	4,440	1,460	1,140	459	220	191	909
17	142	572	180	382	470	2,930	2,420	1,290	436	220	194	808
18	782	507	175	371	430	2,130	3,660	1,060	398	209	198	585
19	626	2,010	170	507	398	3,410	2,720	945	377	205	188	459
20	361	2,480	175	623	578	4,630	3,250	908	347	198	180	442
21	278	1,630	180	488	722	4,460	2,460	1,080	323	194	174	414
22	234	1,240	190	884	526	3,480	2,010	855	314	219	177	352
23	216	992	250	1,330	572	2,650	1,610	771	314	266	256	328
24	212	864	400	1,040	551	2,130	1,360	853	292	253	2,540	342
25	194	754	940	908	551	1,710	1,190	1,100	305	338	870	314
26	188	677	982	1,410	677	1,530	1,100	973	296	246	482	287
27	319	558	754	1,290	551	1,330	926	1,160	328	223	528	278
28	347	482	771	1,160	519	1,350	812	1,030	287	205	534	305
29	274	465	677	973		1,150	731	1,060	262	194	382	283
30	250	459	744	837		1,060	670	1,780	250	177	323	266
31	227		1,150	746		1,050		1,600		177	286	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					782	111	236	0.418		0.48		
November.....					3,030	278	873	1.55		1.73		
December.....					1,150	170	422	.747		.86		
January.....					1,410	352	705	1.25		1.44		
February.....					722	398	550	.973		1.01		
March.....					5,560	392	1,860	3.19		3.49		
April.....					3,660	670	1,770	2.37		2.73		
May.....					3,180	598	1,340	1.13		1.26		
June.....					1,520	250	637	.460		.53		
July.....					852	177	260	.609		.70		
August.....					2,540	174	344	.764		.87		
September.....					1,280	266	443					
The year.....					5,560	111	787	1.39		18.89		



Pine Creek at Cedar Run

LOCATION.- Water-stage recorder at highway bridge at Cedar Run, Lycoming County. Zero of gage is 781.96 feet above mean sea level.

DRAINAGE AREA.- 590 square miles.

RECORDS AVAILABLE.- July 1918 to September 1933.

EXTREMES.- Maximum discharge during year, 7,100 second-feet Nov. 10 (gage height, 5.44 feet); minimum, 31 second-feet Oct. 4 (gage height, 0.96 foot).

1918-33: Maximum discharge (estimated), 16,700 second-feet Apr. 6, 7, 1924 (gage height, 8.6 feet from graph based on gage readings); minimum, 5.1 second-feet Sept. 6, 1929 (gage height, 0.86 foot).

REMARKS.- Records good except those estimated for periods of ice effect, Dec. 10-22, Feb. 5-19, which are poor.

AVERAGE DISCHARGE.- 14 years (1919-33), 736 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Daily and monthly discharge, in seconds.												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	476	497	846	559	310	1,190	559	782	153	71	229
2	41	806	454	712	577	272	1,420	682	670	244	79	229
3	37	568	408	808	515	272	1,560	2,900	586	1,610	98	827
4	34	462	400	730	447	255	1,750	2,770	506	936	270	1,750
5	56	400	385	631	400	250	1,810	2,310	471	577	190	1,190
6	566	358	352	568	380	240	1,700	2,540	550	431	116	792
7	538	774	338	488	430	267	3,040	3,330	447	345	88	577
8	214	814	358	424	560	1,670	3,840	3,040	394	289	74	447
9	145	714	306	372	440	1,530	3,240	2,590	640	250	71	365
10	106	5,070	270	352	370	1,140	2,520	2,190	506	224	82	312
11	88	4,150	270	345	360	937	1,960	1,770	431	195	150	266
12	74	2,740	310	385	360	845	2,320	1,500	378	177	143	234
13	62	1,880	265	472	390	750	2,590	1,420	345	159	105	204
14	57	1,400	225	526	460	1,050	2,360	1,400	312	139	172	234
15	57	1,120	190	524	600	3,160	2,100	1,180	283	127	132	686
16	52	914	170	424	520	3,530	1,860	1,230	260	127	95	515
17	60	845	153	364	440	2,950	2,130	1,780	245	151	79	400
18	112	720	150	301	425	2,450	3,390	1,530	219	116	74	325
19	266	1,720	150	436	470	2,480	3,430	1,430	200	102	76	283
20	224	2,680	155	713	550	3,040	2,860	1,300	181	92	74	250
21	168	2,210	180	568	466	3,840	2,320	1,330	168	88	65	229
22	139	1,770	260	764	362	3,730	1,890	1,060	155	85	70	224
23	123	1,400	497	1,090	396	2,860	1,520	902	147	79	130	214
24	120	1,180	711	984	318	2,170	1,280	934	135	106	4,480	204
25	112	1,010	1,060	948	295	1,720	1,100	1,370	131	272	2,190	195
26	109	868	984	1,020	295	1,470	1,130	1,130	194	181	1,140	177
27	376	690	803	1,010	326	1,320	914	1,100	243	135	720	163
28	430	595	824	891	490	1,360	772	1,030	181	102	532	210
29	312	559	720	750		1,100	690	996	151	85	393	204
30	266	541	680	680		1,010	613	1,040	135	76	301	168
31	224		1,080	613		1,010		902		68	245	
Month						Maximum	Minimum	Mean	Per square mile		Run-off in inches	
October						566	34	168	0.285		0.33	
November						5,070	358	1,310	2.22		2.48	
December						1,080	150	439	.744		.86	
January						1,090	301	637	1.08		1.24	
February						600	295	436	.739		.77	
March						3,840	240	1,580	2.68		3.09	
April						3,840	613	1,960	3.36		3.75	
May						3,330	559	1,590	2.69		3.10	
June						894	131	352	.597		.67	
July						1,610	68	249	.422		.49	
August						4,480	65	403	.683		.79	
September						1,750	163	403	.683		.76	
The year						5,070	34	796	1.35		18.33	

Lycoming Creek near Trout Run

LOCATION.- Chain gage at highway bridge 2-3/4 miles upstream from Trout Run, Lycoming County.  
Zero of gage is 693.4 feet above mean sea level.

DRAINAGE AREA.- 185 square miles.

RECORDS AVAILABLE.- December 1913 to September 1933.

EXTREMES.- Maximum gage height during year (estimated), 13.9 feet Aug. 24 (discharge not determined); minimum discharge, 11 second-feet Oct. 3, 4 (gage height, 1.55 feet).

1913-33: Maximum gage height, 16.3 feet Nov. 16, 1926 (discharge uncertain; previously published figure probably in error); minimum discharge, 6.0 second-feet Sept. 20-22, 1932 (gage height, 1.45 feet).

REMARKS.- Records good except those estimated for periods of ice effect, Dec. 15-22, Feb. 9-15, which are fair, and those for extremely high stages, which are poor.

AVERAGE DISCHARGE.- 16 years (1914-16, 1919-33), 266 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	580	151	177	149	124	396	174	336	61	40	217
2	13	600	133	183	159	142	534	166	258	101	47	188
3	12	355	128	169	142	147	510	1,150	220	1,150	42	1,710
4	12	274	124	169	126	115	584	859	185	360	86	3,760
5	20	232	119	166	117	99	402	663	161	172	48	1,710
6	587	205	107	151	103	91	134	745	274	119	37	1,000
7	223	355	107	137	111	111	1,700	745	205	97	33	721
8	91	355	103	119	147	787	1,430	510	299	80	30	500
9	62	364	87	128	110	560	978	610	180	71	28	433
10	42	2,260	76	115	99	355	801	486	133	61	37	326
11	33	1,170	71	117	95	236	636	440	107	54	166	255
12	29	801	76	147	94	226	859	396	95	47	84	209
13	27	559	69	86	94	248	859	355	86	42	283	175
14	24	418	62	87	96	457	801	376	87	37	663	534
15	22	336	52	107	105	1,170	690	336	78	34	200	908
16	21	281	48	105	126	918	636	336	74	180	159	721
17	47	299	43	95	113	745	1,420	418	69	138	142	696
18	194	242	39	103	113	636	1,850	317	62	87	119	547
19	166	1,470	38	159	124	818	1,360	271	54	52	166	411
20	119	1,480	38	202	200	1,050	978	299	50	43	109	322
21	93	918	40	202	242	1,360	718	396	43	38	91	285
22	76	690	44	396	169	1,100	610	226	40	37	107	274
23	69	534	53	355	174	859	486	194	39	103	204	233
24	66	396	82	281	177	584	396	232	34	80	5,440	222
25	64	336	166	251	174	396	336	317	32	424	1,990	181
26	66	281	137	299	166	463	418	220	29	183	1,110	161
27	560	220	109	261	147	418	299	211	27	109	801	143
28	281	174	111	220	126	418	248	217	30	82	584	146
29	211	154	107	197		355	217	205	30	66	396	128
30	139	151	151	166		317	205	242	31	53	274	116
31	137		264	161		317		486		46	236	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	587	12	113	0.611	0.70
November.....	2,260	151	550	2.97	3.31
December.....	264	38	94.7	.512	.59
January.....	396	86	178	.962	1.11
February.....	242	94	136	.735	.77
March.....	1,360	91	504	2.72	3.14
April.....	1,850	134	716	3.87	4.32
May.....	1,150	166	406	2.19	2.52
June.....	336	27	112	.605	.68
July.....	1,150	34	137	.741	.85
August.....	5,440	28	444	2.40	2.77
September.....	3,760	116	574	3.10	3.46
The year.....	5,440	12	330	1.78	24.22



Loyalsock Creek at Loyalsock

LOCATION.- Water-stage recorder at highway bridge at Loyalsock, Lycoming County. Zero of gage is 585.63 feet above mean sea level.

DRAINAGE AREA.- 433 square miles.

RECORDS AVAILABLE.- July 1925 to September 1933.

EXTREMES.- Maximum discharge during year (estimated), 33,900 second-feet Aug. 24 (gage height, 12.20 feet); minimum, 26 second-feet Oct. 4 (gage height, 2.65 feet).

1925-33: Maximum discharge (estimated), 34,000 second-feet Nov. 16, 1926 (gage height, 12.3 feet); minimum, 16 second-feet Sept. 18, 19, 22-25, 1932 (gage height, 2.57 feet).

REMARKS.- Records good except those for extremely high stages and those estimated for periods of ice effect, Dec. 14-24, Feb. 9-17, which are poor. Discharge estimated from chain gage readings for periods of recorder failure, Dec. 16 to Feb. 4, Feb. 10-15, Mar. 17, 18, Apr. 11. Water-stage recorder, well, and shelter furnished by Robert O. Hayt, Corning, N. Y.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	1,240	396	940	403	498	888	462	1,510	131	76	498
2	29	2,550	373	875	437	454	1,080	448	1,070	206	69	446
3	27	1,410	358	810	412	428	982	1,630	836	1,930	84	1,150
4	27	996	350	810	358	396	996	1,500	702	1,080	120	5,730
5	59	798	343	545	315	373	1,260	1,080	594	474	171	3,320
6	5,430	690	315	471	315	322	1,070	1,170	888	302	123	1,86
7	3,220	714	302	454	296	349	3,190	1,460	750	231	92	1,280
8	1,160	774	296	471	474	2,300	3,180	1,140	930	191	76	940
9	634	679	270	373	430	1,820	2,110	1,040	746	163	69	762
10	428	1,360	231	373	370	1,120	1,680	1,280	526	147	76	647
11	336	1,630	209	343	330	980	1,490	1,160	420	127	188	526
12	270	1,140	236	403	300	762	1,650	982	388	116	274	446
13	236	901	250	690	280	690	2,110	901	373	109	270	388
14	204	750	220	545	270	1,440	1,770	849	315	98	1,100	436
15	186	647	180	507	270	2,860	1,480	750	282	92	498	2,270
16	172	564	160	454	300	2,250	1,290	702	258	141	280	5,670
17	168	626	150	358	420	1,630	2,480	849	241	220	200	6,230
18	404	615	140	358	516	1,740	4,760	702	220	159	191	2,910
19	774	2,720	130	373	454	1,740	3,520	594	195	123	414	1,910
20	658	4,040	120	583	642	2,650	2,360	554	186	102	404	1,390
21	536	2,250	120	583	1,220	3,970	1,770	615	172	92	247	1,070
22	437	1,610	140	454	794	3,640	1,410	554	159	92	209	954
23	373	1,180	190	1,020	726	2,380	1,140	462	151	114	670	798
24	343	992	300	810	726	1,790	954	454	139	85	22,100	726
25	322	836	446	679	714	1,390	823	1,060	127	163	6,680	626
26	302	726	750	669	647	1,200	849	738	120	225	2,950	526
27	559	564	454	647	554	1,070	798	604	127	172	2,050	462
28	658	498	403	604	471	1,100	658	604	154	131	1,410	412
29	516	507	454	526		940	574	526	147	106	1,020	373
30	446	428	471	446		823	507		123	95	750	336
31	380		836	454		774		2,380		79	594	
Month					Maximum		Minimum		Mean		Per square mile	Run-off in inches
October.....					5,430		27		623		1.44	1.66
November.....					4,040		428		1,150		2.66	2.97
December.....					836		120		309		714	.82
January.....					1,020		343		569		1.31	1.51
February.....					1,220		270		480		1.11	1.16
March.....					3,970		322		1,420		3.28	3.78
April.....					4,760		507		1,630		3.78	4.20
May.....					2,380		448		916		2.12	2.44
June.....					1,610		120		428		.988	1.10
July.....					1,930		79		242		.659	.64
August.....					22,100		69		1,400		3.23	3.72
September.....					6,230		336		1,500		3.46	3.86
The year.....					22,100		27		889		2.05	27.86

Penn Creek at Penns Creek

LOCATION.- Water-stage recorder at bridge on State Highway No. 104, three-fourths mile northeast of Penna Creek, Union County.

DRAINAGE AREA.- 301 square miles.

RECORDS AVAILABLE.- October 1929 to September 1933.

**EXTREMES.**- Maximum discharge during year ending Sept. 30, 1932, 4,240 second-feet Apr. 1 (gauge height, 7.19 feet); minimum, 7.0 second-feet Sept. 27 (gauge height, 0.85 foot).

Maximum discharge during year ending Sept. 30, 1933, (estimated), 8,740 second-feet Aug. 24 (gage height, 11.00 feet); minimum, 12 second-feet Oct. 3 (gage height, 0.95 foot).

1929-33: Maximum discharge, that of Aug. 24, 1933; minimum, that of Sept. 27, 1932.

REMARKS.- Records fair except those for extremely high and low stages and those estimated for periods of ice effect, Dec. 6-8, 1931, Feb. 1-4, Mar. 9-18, 1932, and for periods of missing or poor gage height record, Dec. 15-19, 1931, Mar. 1, 2, Dec. 1-31, 1932, Jan. 1 to July 18, 1933, which are poor. Regulation from power operations upstream. Water-stage recorder, well, and shelter furnished by United States Engineer Office, Baltimore, Md.

Daily and monthly discharge, in second-feet, 1931-32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	52	63	89	300	210	3,830	369	267	125	67	57
2	50	56	64	331	250	180	2,760	417	271	169	73	67
3	46	47	57	338	250	168	2,360	334	264	160	79	51
4	48	52	51	260	280	168	1,860	298	292	143	82	62
5	46	42	50	198	357	180	1,500	284	372	149	91	78
6	44	49	48	202	298	198	1,280	288	390	136	82	70
7	52	55	46	380	284	208	1,070	316	292	120	70	59
8	74	46	44	372	288	176	910	366	254	125	72	46
9	64	43	42	309	302	160	879	479	234	115	70	48
10	61	48	71	261	271	150	1,070	764	224	103	66	48
11	55	50	72	221	274	140	1,040	2,070	205	99	70	52
12	54	48	82	195	257	135	1,070	2,360	202	99	74	41
13	47	47	103	183	271	130	1,000	1,740	282	95	78	44
14	47	50	165	174	234	125	910	1,390	250	86	73	46
15	54	46	140	160	221	120	821	1,140	234	84	62	42
16	58	47	110	154	213	120	743	940	198	78	61	43
17	57	45	85	149	217	140	675	810	208	79	62	50
18	48	48	70	130	221	190	624	690	180	74	61	44
19	47	47	65	138	205	270	567	624	168	74	97	34
20	49	50	57	127	195	345	527	567	160	80	91	41
21	54	47	51	120	191	357	492	527	154	108	73	43
22	50	45	64	120	183	392	462	488	168	99	63	41
23	47	47	67	135	168	446	433	437	166	77	66	42
24	48	48	66	217	179	421	400	421	106	72	60	39
25	46	50	69	217	169	417	396	388	122	70	45	39
26	46	43	67	189	157	441	380	361	117	79	57	38
27	44	46	54	198	151	571	357	349	149	80	57	34
28	44	54	54	211	205	608	334	342	177	101	48	62
29	61	50	68	192	224	800	316	316	157	99	47	57
30	59	55	48	322		940	306	302	136	95	61	49
31	58		55	377		2,200		281		77	90	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					74	44	51.9	0.172		0.20		
November.....					56	42	48.4	.161		.18		
December.....					165	42	69.3	.230		.27		
January.....					380	89	215	.714		.82		
February.....					357	151	235	.781		.84		
March.....					2,200	120	365	1.21		1.40		
April.....					3,830	306	979	3.25		3.63		
May.....					2,360	281	660	2.19		2.52		
June.....					390	106	213	.708		.79		
July.....					169	70	102	.339		.39		
August.....					97	45	69.3	.230		.27		
September.....					82	34	49.6	.165		.18		
The year.....					3,830	34	254	.844		11.49		



## SUSQUEHANNA BASIN

Penn Creek at Penns Creek

(Continued)

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45	348									88	369
2	40	441									92	338
3	40	339									97	327
4	40	306									108	492
5	92	284								220	95	412
6	459	287									86	309
7	448	254									88	274
8	237	244	295	330	350	500	1,120	1,210	570		80	250
9	162	297									78	234
10	114	1,850									115	224
11	113	1,320									291	211
12	103	923									168	208
13	95	701									127	198
14	79	609								125	444	195
15	82	536									216	279
16	73	486									120	435
17	81	501									110	344
18	593	446									110	261
19	653	1,220								110	113	214
20	408	1,610								105	103	208
21	309	1,210								101	86	234
22	247	972			380					109	90	202
23	205	799	310	390		1,390	1,320	680	240	111	671	180
24	208	701								94	7,140	214
25	195	639								117	2,620	208
26	160	590								138	1,240	186
27	349	509								117	844	171
28	342	437								108	680	174
29	274	415								96	548	177
30	241	413								88	450	151
31	221									86	388	
Month				Maximum		Minimum		Mean		Per square mile		Run-off in inches
October.....				653		40		216		0.718		0.83
November.....				1,850		244		662		2.20		2.46
December.....								303		1.01		1.16
January.....								361		1.20		1.38
February.....								384		1.21		1.26
March.....								959		3.19		3.68
April.....								1,220		4.05		4.52
May.....								936		3.11		3.58
June.....								405		1.35		1

Mahantango Creek East near Dalmatia

LOCATION.- Water-stage recorder at highway bridge 2 miles above mouth and  $3\frac{1}{4}$  miles south of Dalmatia, Northumberland County.

DRAINAGE AREA.- 162 square miles.

RECORDS AVAILABLE.- October 1929 to September 1933.

EXTREMES.- Maximum gage height during year, 13.66 feet Aug. 24 (discharge not determined); minimum discharge, 2.8 second-feet Oct. 4 (gage height, 0.92 foot).

1929-33: Maximum gage height, that of Aug. 24, 1933; minimum discharge, 1.5 second-foot Sept. 21, 1932 (gage height, 0.84 foot).

REMARKS.- Records good except those estimated for periods of ice effect, Dec. 13-24, Jan. 3-7, 14-16, Feb. 9-19, and for period of missing gage-height record, Jan. 28 to Feb. 6, which are fair, and those for extremely high stages, which are poor. Some regulation at low stages from power operations upstream. Water-stage recorder, well, and shelter furnished by United States Engineer Office, Baltimore, Md.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.5	742	148	228	160	177	300	162	271	47	40	231
2	3.4	1,260	131	193	150	164	290	157	228	180	55	200
3	3.4	645	116	175	140	153	304	190	203	829	67	213
4	3.4	419	112	165	135	139	304	167	198	444	174	3,030
5	83	321	108	150	130	126	318	137	180	240	62	1,680
6	1,270	262	99	140	125	118	314	174	288	172	38	875
7	747	231	96	130	120	116	532	237	182	135	31	595
8	312	211	90	128	190	245	577	265	223	110	24	449
9	186	177	79	122	145	219	524	508	167	94	24	360
10	133	212	72	126	130	174	472	857	347	84	53	307
11	99	237	65	116	115	133	389	789	241	74	256	249
12	79	206	85	164	105	173	695	636	177	67	117	220
13	65	184	65	167	100	164	856	520	153	63	70	182
14	59	170	55	130	100	373	680	434	135	55	111	170
15	49	157	50	130	100	679	548	371	122	53	90	684
16	48	146	48	130	120	789	465	363	110	61	57	1,490
17	49	153	47	135	140	615	825	408	107	84	47	1,520
18	276	139	46	131	160	480	1,440	328	94	71	48	849
19	263	694	45	135	200	656	1,250	294	84	49	40	586
20	198	1,250	45	139	383	1,130	856	274	79	44	36	469
21	164	745	48	116	565	1,710	658	281	72	38	35	371
22	137	508	55	122	411	1,420	520	231	69	35	41	304
23	116	374	75	141	353	947	419	203	65	89	965	255
24	105	310	100	126	304	701	360	197	59	55	8,220	268
25	89	262	224	120	265	532	314	654	54	171	3,560	223
26	79	237	245	177	265	488	297	382	53	110	1,270	184
27	214	192	178	217	211	445	249	387	78	64	996	167
28	220	155	221	220	182	389	214	307	65	53	592	160
29	170	148	231	210		342	192	293	58	44	428	148
30	146	161	237	190		297	174	458	48	36	328	133
31	124		258	180		284		318		30	265	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					1,270	3.4	177	1.09		1.26		
November.....					1,260	139	364	2.25		2.51		
December.....					258	45	112	.691		.80		
January.....					228	116	153	.944		1.09		
February.....					565	100	197	1.22		1.27		
March.....					1,710	116	464	2.66		3.30		
April.....					1,440	174	511	2.19		2.52		
May.....					857	137	354	.864		.96		
June.....					347	48	140	.735		.85		
July.....					829	30	119	3.61		4.16		
August.....					8,220	24	585	3.37		3.76		
September.....					3,030	133	546					
The year.....					8,220	3.4	310	1.91		25.99		







## Shaver Creek near Petersburg

LOCATION.- Chain gage at highway bridge  $3\frac{1}{2}$  miles northeast of Petersburg, Huntingdon County, and  $4\frac{1}{2}$  miles above confluence with Juniata River.

DRAINAGE AREA.- 46.2 square miles.

RECORDS AVAILABLE.- October 1929 to September 1933.

EXTREMES.- Maximum discharge during year, about 1,340 second-feet Apr. 7 (gage height, 7.0 feet from graph based on gage readings), minimum, 2.0 second-feet Oct. 1 (gage height, 0.55 foot).

1929-33: Maximum discharge, that of Apr. 7, 1933; minimum, 0.9 second-foot Sept. 19, 1932 (gage height, 0.46 foot).

Maximum stage known, 9.2 feet during flood of 1889 (discharge not determined).

REMARKS.- Records fair except those for extremely high and low stages and those estimated for periods of ice effect, Nov. 27, Dec. 15-23, Feb. 4-19, 28, Mar. 11, which are poor. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.2	242	29	69	54	50	184	49	69	11	5.4	10
2	2.2	58	29	63	68	49	159	60	53	289	5.4	9.2
3	2.4	37	31	68	55	43	146	265	45	132	3.9	13
4	2.2	27	30	58	42	40	132	145	56	35	5.4	41
5	5.3	25	28	52	37	37	103	103	42	21	4.9	22
6	7.3	21	25	40	35	36	355	286	53	13	3.6	13
7	26	22	25	40	45	41	773	210	46	14	3.6	10
8	10	20	23	36	70	108	257	553	117	12	4.9	10
9	5.7	24	20	37	50	68	201	400	52	12	5.7	8.8
10	6.8	276	34	37	38	51	184	688	76	11	3.5	8.5
11	4.4	80	63	44	32	50	132	293	44	9.6	30	8.8
12	4.4	67	34	50	30	59	444	174	34	9.6	14	8.5
13	4.6	49	34	50	31	70	192	176	32	9.6	7.4	9.6
14	5.2	40	19	37	35	453	153	201	25	7.4	6.4	11
15	4.6	38	15	33	50	492	126	126	25	8.1	6.4	12
16	4.9	34	14	30	41	238	134	146	28	9.6	6.4	11
17	16	48	13	32	40	168	238	248	23	7.4	6.1	9.6
18	75	35	12	34	45	146	132	168	19	6.1	7.8	7.8
19	32	616	12	76	38	592	126	132	18	6.8	5.2	6.4
20	22	206	13	54	176	517	168	126	16	5.7	4.9	13
21	16	101	15	40	93	439	126	132	14	6.1	4.9	9.6
22	12	76	20	124	75	238	114	91	15	7.1	4.4	7.4
23	10	65	30	108	70	184	103	81	13	7.1	26	7.4
24	13	58	114	68	63	139	91	70	14	7.4	232	13
25	9.2	49	82	63	65	120	84	93	13	8.5	46	9.6
26	11	48	69	170	70	120	86	67	12	6.4	25	9.2
27	56	38	51	100	59	126	68	67	12	7.1	16	8.1
28	27	32	78	82	52	126	65	58	12	6.1	16	17
29	22	38	59	70		99	57	66	12	4.9	13	12
30	15	35	86	62		91	52	252	11	5.4	10	8.1
31	24		101	58		108		108		4.6	11	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					75	2.2	16.9	0.366		0.42		
November.....					616	20	83.5	1.81		2.02		
December.....					114	12	39.0	.844		.97		
January.....					170	30	60.8	1.32		1.52		
February.....					176	30	55.7	1.21		1.26		
March.....					592	36	164	3.55		4.09		
April.....					778	52	172	3.72		4.15		
May.....					688	49	161	3.92		4.52		
June.....					117	11	32.9	.712		.79		
July.....					289	4.6	22.7	.491		.57		
August.....					232	3.6	17.7	.583		.64		
September.....					41	6.4	11.5	.249		.28		
The year.....					778	2.2	71.7	1.55		21.03		

Standing Stone Creek near Huntingdon

LOCATION.- Water-stage recorder at bridge on State Highway No. 545,  $3\frac{1}{4}$  miles northeast of Huntingdon, Huntingdon County.

DRAINAGE AREA.- 128 square miles.

RECORDS AVAILABLE.- October 1929 to September 1933.

EXTREMES.- Maximum discharge during year, about 1,940 second-feet Aug. 24 (gage height, 6.20 feet); minimum, 8.2 second-feet Oct. 4 (gage height, 0.91 foot).

1929-33: Maximum discharge, about 2,240 second-feet May 8, 1931 (gage height, 6.75 foot); minimum, 2.8 second-feet Feb. 11, 1931 (gage height, 0.64 foot).

Maximum stage known, 9.38 feet June 1, 1889 (discharge not determined).

REMARKS.- Records fair. Discharge estimated for periods of ice effect, Dec. 16-23, Feb. 4-19, and for period of missing gage-height record, Dec. 6-8. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	10	210	105	192	133	119	333	152	358	52	23	75	
2	9.5	205	97	153	155	113	365	248	278	340	21	71	
3	9.5	105	89	101	128	109	401	1,100	232	520	29	71	
4	8.9	78	80	140	110	101	352	564	196	162	49	146	
5	14	68	76	128	100	93	299	365	196	69	31	101	
6	158	63	64	106	90	86	333	782	264	68	24	71	
7	115	58	63	97	105	92	1,300	718	174	60	21	71	
8	42	55	64	91	160	286	744	684	409	52	20	71	
9	27	85	56	89	140	213	506	770	215	54	20	71	
10	20	674	71	93	110	158	481	1,110	207	49	63	71	
11	16	343	74	89	90	147	384	729	160	45	251	48	
12	14	210	91	113	80	157	816	543	138	40	62	52	
13	13	150	74	92	80	173	600	460	126	40	38	46	
14	13	122	67	98	90	877	484	492	115	38	48	50	
15	16	105	54	88	120	1,150	381	401	111	36	36	78	
16	16	97	45	95	115	832	358	560	105	41	28	60	
17	31	122	40	83	115	499	550	792	105	46	32	60	
18	172	101	35	80	120	394	698	460	95	36	35	49	
19	153	697	35	116	115	832	543	362	88	33	29	43	
20	32	758	35	128	268	1,040	820	317	84	31	25	56	
21	58	349	38	97	288	904	600	406	76	30	23	54	
22	45	246	60	204	196	658	484	299	73	28	25	42	
23	41	191	100	311	175	488	394	246	71	30	181	30	
24	42	170	171	202	158	404	346	230	66	30	1,650	49	
25	38	148	355	158	148	333	308	304	63	32	442	47	
26	32	135	282	461	178	320	290	210	61	31	210	37	
27	92	112	165	352	143	296	243	191	74	29	145	39	
28	89	104	226	269	131	320	210	175	63	31	115	67	
29	61	101	183	207	272	186	186	174	55	26	99	52	
30	50	111	197	168	240	168	168	985	50	23	84	43	
31	43		269	148		249		610		25	75		
Month				Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October.....				172		8.9		49.7		0.338		0.45	
November.....				758		55		199		1.55		1.73	
December.....				355		35		108		.944		.97	
January.....				461		80		153		1.20		1.38	
February.....				288		80		137		1.07		1.11	
March.....				1,150		36		386		3.02		3.48	
April.....				1,300		168		468		3.64		4.06	
May.....				1,110		152		498		3.89		4.48	
June.....				409		50		144		1.12		1.25	
July.....				520		23		69.3		.541		.62	
August.....				1,650		20		127		.992		1.14	
September.....				146		37		59.1		.462		.52	
The year.....				1,650		8.9		200		1.56		21.19	



Raystown Branch of Juniata River at Saxton

LOCATION.- Chain gage at highway bridge half a mile west of Saxton, Bedford County.  
Zero of gage is 794.73 feet above mean sea level.

DRAINAGE AREA.- 784 square miles.

RECORDS AVAILABLE.- October 1931 to September 1933. August 1911 to September 1931 at a site eight-tenths of a mile downstream.

EXTREMES.- Maximum discharge during year, about 13,800 second-feet Mar. 14 (gage height, 10.3 feet from graph based on gage readings); minimum, 53 second-feet Oct. 1, 3, 4, (gage height, 0.96 foot).

1911-33: Maximum discharge, about 29,000 second-feet May 12, 13, 1924 (gage height, 13.6 feet from graph based on gage readings at former site); minimum, 52 second-feet Oct. 17, 18, 1930.

REMARKS.- Records good except those for extremely high and low stages and those estimated for periods of ice effect, Dec. 10-24, Feb. 7-19, which are fair.

AVERAGE DISCHARGE.- 22 years (1911-33), 904 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	53	249	406	1,030	985	730	1,540	770	2,400	239	161	200
2	56	315	350	770	940	730	1,890	770	1,770	208	153	183
3	53	486	375	730	940	689	1,770	1,680	1,320	544	146	172
4	53	364	338	770	770	611	1,890	1,890	1,120	898	191	283
5	69	292	316	730	650	574	1,650	1,580	985	496	153	316
6	117	259	305	689	412	500	1,430	1,320	855	338	161	387
7	114	229	283	574	450	508	3,420	2,400	770	283	172	305
8	103	219	273	515	650	770	3,820	2,910	770	249	157	244
9	146	277	254	472	480	1,220	2,660	5,640	1,030	221	133	204
10	103	3,240	245	465	420	1,030	2,400	6,400	730	208	127	187
11	92	3,180	235	472	400	770	1,890	7,080	898	200	150	168
12	87	1,650	280	472	590	812	2,400	4,750	611	191	143	183
13	73	1,030	290	465	400	949	3,220	3,370	452	183	153	176
14	82	770	260	445	460	8,210	2,530	2,800	419	176	161	254
15	75	607	190	439	550	9,380	2,010	1,770	399	216	153	366
16	73	530	145	406	500	7,620	1,770	2,010	375	372	136	1,230
17	78	523	135	399	490	4,680	3,530	2,660	381	176	161	1,790
18	498	530	130	399	490	2,940	4,910	1,890	387	176	168	900
19	1,780	2,260	130	439	500	4,530	3,970	1,540	406	168	146	536
20	855	6,070	130	439	689	8,340	4,430	1,320	322	168	153	412
21	501	2,880	135	465	940	7,360	6,570	1,170	294	176	120	338
22	339	1,770	140	412	898	5,390	4,430	1,030	273	161	204	294
23	249	1,220	160	493	730	3,670	2,940	898	254	267	947	244
24	202	940	255	730	770	2,800	2,270	770	234	161	1,400	230
25	185	812	1,030	730	730	2,140	1,890	985	225	176	1,070	204
26	169	650	1,030	2,660	730	1,770	1,540	1,030	225	200	548	200
27	202	574	855	3,740	985	1,540	1,320	2,440	234	200	381	183
28	326	432	855	2,660	770	1,650	1,080	1,720	406	208	393	176
29	389	310	1,270	2,010	1,540	1,540	940	1,220	332	225	316	164
30	292	344	1,080	1,430	1,380	1,380	855	3,040	263	183	244	168
31	239		1,030	1,120		1,320		4,460		168		217
Month						Maximum	Minimum	Mean	Per square mile		Run-off in inches	
October.....						1,780	53	247	0.315		0.36	
November.....						6,070	219	1,100	1.40		1.56	
December.....						1,270	130	416	.531		.61	
January.....						3,740	399	889	1.13		1.30	
February.....						985	390	647	.825		.88	
March.....						9,380	500	2,780	3.55		4.09	
April.....						6,570	855	2,570	3.28		3.66	
May.....						7,080	770	2,360	3.01		3.47	
June.....						2,400	225	638	.814		.91	
July.....						898	161	253	.323		.37	
August.....						1,400	120	288	.367		.42	
September.....						1,790	164	356	.454		.51	
The year.....						9,380	53	1,050	1.34		18.12	

## Dunning Creek at Yount

LOCATION.- Chain gage at highway bridge at Yount, Bedford County, 3 miles upstream from mouth.

DRAINAGE AREA.- 191 square miles.

RECORDS AVAILABLE.- November 1929 to September 1933.

EXTREMES.- Maximum discharge during year, about 3,660 second-feet Mar. 15 (gage height, 8.8 feet from graph based on gage readings); minimum, 8.2 second-feet Oct. 1 (gage height, 0.53 foot).

1929-33: Maximum discharge, that of Mar. 15, 1933; minimum, 4.9 second-feet July 28, 1930 (gage height, 0.46 foot).

REMARKS.- Records good except those for extremely high stages and those estimated for periods of ice effect, Dec. 15-23, Feb. 9-13, which are poor. Slight regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.9	104	75	246	246	246	556	164	591	43	17	35
2	9.6	104	68	234	270	210	591	272	400	81	17	31
3	8.9	80	75	222	198	186	556	490	319	520	21	36
4	10	68	75	222	175	164	490	319	294	164	72	112
5	17	58	67	210	175	136	400	282	222	99	35	78
6	40	54	62	164	164	124	547	540	222	76	23	46
7	56	49	58	145	175	164	1,370	591	178	64	21	36
8	23	45	56	130	246	358	972	992	319	54	17	34
9	17	113	48	128	200	258	667	1,340	164	45	16	30
10	17	754	48	130	150	222	522	2,520	246	48	20	28
11	16	400	48	140	140	210	400	1,740	140	43	56	22
12	16	258	56	175	140	222	897	1,070	113	36	35	54
13	18	175	54	136	150	911	591	834	99	34	24	48
14	19	136	45	136	175	3,000	490	667	92	30	21	46
15	19	113	41	140	198	3,420	400	522	85	28	17	232
16	22	102	40	136	186	1,930	475	851	81	45	15	153
17	44	109	39	130	153	972	1,250	748	99	35	19	119
18	88	88	37	128	151	667	1,120	556	80	29	17	83
19	86	1,010	35	164	153	1,930	925	429	67	27	17	64
20	59	914	35	149	270	2,580	1,470	345	59	24	73	61
21	43	490	35	132	282	1,790	1,170	294	55	21	27	51
22	33	306	38	234	246	1,120	790	234	48	23	19	45
23	33	234	80	282	258	790	556	198	48	67	77	43
24	33	198	261	270	234	591	429	175	45	35	389	42
25	33	164	372	286	319	790	345	345	40	36	175	33
26	33	136	270	1,170	358	386	319	984	50	45	95	30
27	75	102	282	707	294	459	258	521	153	56	67	30
28	65	85	400	556	270	522	222	358	108	35	55	31
29	54	86	294	358		429	106	449	65	25	45	34
30	47	88	345	294		372	164	1,900	49	22	36	31
31	43		332	258		429		1,000		19	34	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					88	8.9	35.0	0.183		0.21		
November.....					1,010	45	221	1.16		1.29		
December.....					400	35	122	.639		.74		
January.....					1,170	128	252	1.32		1.52		
February.....					358	140	213	1.12		1.17		
March.....					3,420	124	825	4.32		4.98		
April.....					1,470	164	638	3.34		3.73		
May.....					2,520	164	701	3.67		4.23		
June.....					591	40	151	.791		.88		
July.....					520	19	61.6	.323		.37		
August.....					389	15	50.7	.265		.31		
September.....					232	22	57.3	.300		.33		
The year.....					3,420	8.9	278	1.46		19.76		



Brush Creek at Gapsville

LOCATION.- Water-stage recorder at highway bridge, three-fourths mile northwest of Gapsville, Bedford County, and 5½ miles above confluence with Shaffer Creek.

DRAINAGE AREA.- 36.2 square miles.

RECORDS AVAILABLE.- November 1929 to September 1933.

EXTREMES.- Maximum discharge during year, about 932 second-feet Apr. 17 (gage height, 3.99 feet); minimum, 0.6 second-foot Oct. 16 (gage height, 0.56 foot).

1929-33: Maximum gage height, 4.44 feet May 23, 1931 (discharge not determined); minimum discharge, 0.2 second-foot Aug. 28, Sept. 12, 20-23, 1932.

REMARKS.- Records fair. Discharge estimated for periods of ice effect, Dec. 15-25, 5, 6, 9-14, Mar. 11, and for period of missing gage height record, Apr. 11-16. Regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.7	57	27	51	60	39	84	62	88	5.8	2.1	4.4
2	0.8	53	24	46	57	38	89	67	73	14	1.8	4.3
3	0.9	38	24	42	50	36	92	98	62	38	1.7	8.1
4	1.3	30	22	42	41	32	92	89	60	12	4.7	56
5	2.6	26	22	40	38	29	83	88	53	8.6	2.9	25
6	15	23	18	34	36	27	110	132	38	7.2	2.7	14
7	6.8	23	10	33	36	38	345	153	36	6.3	2.8	10
8	3.9	20	17	29	45	73	256	236	40	6.3	2.7	7.5
9	0.9	130	14	29	38	62	186	293	32	6.0	2.1	7.0
10	0.8	454	13	27	33	58	145	435	38	4.4	2.6	6.9
11	3.0	177	13	25	32	54	139	331	24	5.0	4.1	5.3
12	2.3	115	15	31	31	51	320	231	20	4.5	2.9	9.1
13	2.0	80	14	24	32	118	197	170	17	4.4	2.7	7.2
14	2.3	62	14	23	35	491	163	134	17	4.5	2.7	23
15	1.4	50	12	22	42	374	132	108	14	4.0	2.5	50
16	0.8	44	11	22	38	257	84	105	14	4.0	1.7	86
17	27	54	10	22	36	191	922	86	18	3.9	2.4	64
18	162	41	10	22	35	155	567	72	14	3.7	2.2	30
19	102	351	10	22	32	237	420	64	12	3.5	1.4	22
20	39	295	10	22	52	310	636	59	10	3.6	7.3	17
21	27	171	10	20	54	348	472	57	9.6	3.0	3.4	14
22	17	115	11	25	48	278	298	49	9.2	4.6	2.6	11
23	14	86	13	27	50	205	197	42	8.6	2.3	29	9.3
24	12	70	16	24	48	157	147	41	8.2	2.9	102	9.6
25	9.9	59	22	26	50	125	120	49	7.5	3.7	18	7.5
26	11	54	28	228	53	111	102	164	7.0	3.8	8.7	6.3
27	52	42	31	153	45	98	84	164	7.4	5.7	6.6	6.0
28	42	35	60	130	42	98	70	110	7.3	4.6	9.1	6.9
29	29	53	57	105		86	62	91	6.5	3.4	8.1	6.3
30	23	31	50	84		76	54	123	6.3	2.1	6.3	5.8
31	18		62	70		77		103		2.8	5.2	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					162	0.7	20.3	0.552		0.64		
November.....					454	20	94.6	2.57		2.88		
December.....					62	10	22.1	.601		.69		
January.....					228	20	48.4	1.32		1.52		
February.....					60	31	42.5	1.15		1.20		
March.....					491	27	140	3.80		4.38		
April.....					922	54	219	5.95		6.64		
May.....					435	41	129	3.51		4.05		
June.....					88	6.3	25.3	.608		.77		
July.....					38	2.1	6.08	.165		.19		
August.....					102	1.4	8.24	.224		.26		
September.....					86	4.3	18.0	.409		.55		
The year.....					342	.7	64.3	1.75		23.77		

Great Trough Creek near Marklesburg

LOCATION.- Water-stage recorder at highway bridge half a mile above mouth and 3 miles southeast of Marklesburg, Huntingdon County. Zero of gage is 714.48 feet above mean sea level.

DRAINAGE AREA.- 84.7 square miles.

RECORDS AVAILABLE.- January 1930 to September 1933.

EXTREMES.- Maximum discharge during year (estimated), 2,040 second-foot Mar. 15 (gage height, 4.68 feet); minimum, 1.0 second-foot Oct. 4 (gage height, 0.61 foot).

1930-33: Maximum discharge, that of Mar. 15, 1933; minimum, 0.6 second-foot Sept. 22, 23, 1932 (gage height, 0.59 foot).

REMARKS.- Records excellent except those for medium stages and those estimated for periods of ice effect, Dec. 17-24, Feb. 11-13 and for periods of missing gage height record, Jan. 20, Feb. 24, 25, which are fair. Some regulation at low stages from power operations upstream. Water-stage recorder, well, shelter, and concrete weir furnished by United States Engineer Office, Baltimore, Md.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.7	72	59	96	99	67	188	88	251	11.8	4.7	23
2	1.4	107	52	76	99	60	209	199	182	45	4.2	22
3	1.3	64	40	89	86	59	202	776	141	167	4.0	22
4	1.3	46	41	69	71	54	202	532	118	70	7.9	101
5	2.8	39	37	73	63	50	179	353	97	29	9.8	80
6	19.8	35	34	60	53	46	194	348	80	19.0	5.5	46
7	26	30	31	54	72	55	708	420	67	15.4	4.7	31
8	10.5	30	30	48	86	152	538	443	106	13.2	4.2	25
9	6.0	104	26	48	58	120	370	572	73	12.3	3.5	22
10	4.1	1,020	32	48	46	95	295	954	60	17.2	5.6	19.4
11	3.2	480	24	46	40	74	232	705	52	10.4	12.2	16.5
12	1.9	256	30	57	40	91	529	512	41	9.5	13.3	19.4
13	2.9	148	28	51	45	126	443	408	35	8.1	7.1	22
14	3.3	106	28	55	63	769	328	386	31	7.6	16.8	23
15	3.0	84	18.6	41	80	1,620	259	299	30	7.6	8.6	68
16	4.0	73	12	53	114	823	232	451	29	7.5	5.8	73
17	13.7	90	11	40	76	512	634	474	29	9.3	85	69
18	173	74	10	39	70	370	579	348	26	7.1	29	43
19	239	491	10	44	80	651	414	268	24	7.0	9.6	31
20	98	616	10	48	96	861	467	224	22	6.8	16.4	28
21	57	304	11	41	119	756	426	196	19.8	10.5	11.1	24
22	38	185	17	50	86	565	324	149	18.1	6.9	7.4	21
23	30	135	27	80	86	408	255	125	17.1	4.3	184	19.1
24	26	113	55	67	84	309	209	114	15.6	23	1,410	17.8
25	24	93	128	65	90	239	179	161	14.4	17.5	332	15.1
26	24	84	87	310	97	209	167	111	14.5	8.2	106	12.9
27	52	69	71	281	78	186	136	100	15.9	9.4	60	12.9
28	62	63	121	216	68	199	115	145	14.3	9.2	55	11.4
29	44	79	111	164		167	101	190	12.5	7.0	41	11.8
30	35	74	98	128		144	90	589	11.6	6.0	30	11.0
31	29		123	113		147		408		4.8	24	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					239	1.3	33.5	0.396		0.46		
November.....					1,020	30	172	2.03		2.28		
December.....					128	10	45.6	.538		.62		
January.....					310	39	85.5	1.01		1.16		
February.....					119	40	76.6	.904		.94		
March.....					1,620	46	32.2	3.80		4.38		
April.....					708	90	307	3.62		4.04		
May.....					951	88	356	4.20		4.84		
June.....					254	11.6	54.9	.648		.72		
July.....					167	4.3	19.0	.224		.26		
August.....					1,410	3.5	81.2	.959		1.11		
September.....					101	11	31.4	.371		.41		
The year.....					1,620	1.3	132	1.56		21.20		



## Aughwick Creek near Orbisonia

LOCATION.- Chain gage at highway bridge 600 feet above East Broad Top Railroad bridge, 650 feet above mouth of Three Springs Creek, and 2½ miles southwest of Orbisonia, Huntingdon County. Zero of gage is 619.04 feet above mean sea level.

DRAINAGE AREA.- 174 square miles.

RECORDS AVAILABLE.- May 1915 to February 1916; January 1930 to September 1933.

EXTREMES.- Maximum discharge during year, about 7,830 second-feet Aug. 24 (gage height, 10.83 feet); minimum, 5.8 second-feet Oct. 4 (gage height, 1.74 feet).

1915-16, 1930-33: Maximum discharge, that of Aug. 24, 1933; minimum, 3.8 second-feet Sept. 25-27, 1932 (gage height, 1.70 feet).

Maximum stage known, about 20.5 feet during flood of 1889 (discharge not determined).

REMARKS.- Records fair except those above 1,000 second-feet and those estimated for periods of ice effect, Nov. 29 to Dec. 3, Dec. 12-24, Feb. 9-18, which are poor. Some regulation at low stages from operation of gristmills upstream.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.8	201	110	238	251	159	340	171	475	21	21	69
2	6.3	279	100	196	240	144	340	198	340	35	17	65
3	6.3	198	98	235	198	140	340	623	271	363	19	234
4	5.8	128	95	214	171	126	340	494	238	135	41	1,080
5	8.8	102	82	188	144	117	294	356	188	61	37	433
6	82	91	72	147	126	95	309	491	154	41	21	243
7	91	84	72	135	203	176	2,170	729	131	33	16	163
8	35	82	74	126	214	516	1,290	1,040	214	29	14	131
9	21	122	59	117	140	372	778	1,700	142	25	14	104
10	16	3,170	53	135	115	279	594	2,430	113	23	16	82
11	15	1,030	80	128	105	214	439	1,500	93	25	51	69
12	14	526	82	163	100	208	1,580	992	76	20	43	74
13	11	340	78	126	100	341	1,150	729	63	19	25	95
14	12	251	70	142	105	2,980	729	594	55	17	21	78
15	12	193	50	122	110	1,950	533	457	51	19	19	119
16	14	171	40	104	120	1,120	457	594	49	16	17	201
17	96	224	37	117	135	778	2,170	533	49	16	23	324
18	694	176	36	113	160	594	2,010	405	53	17	19	203
19	514	2,000	35	119	214	1,320	1,170	340	45	16	19	144
20	245	1,910	35	122	356	2,180	1,170	294	43	15	21	117
21	140	782	37	102	422	2,040	1,110	294	37	33	178	97
22	91	533	45	124	294	1,280	882	229	33	33	103	78
23	72	340	70	178	273	829	637	190	29	21	364	69
24	63	273	140	149	235	637	494	171	25	29	5,000	61
25	57	229	324	142	214	475	422	240	25	159	613	57
26	49	208	265	2,000	257	422	372	177	25	61	251	51
27	152	156	245	1,160	190	356	294	372	25	55	219	45
28	171	117	439	662	151	405	246	279	33	41	219	45
29	115	110	372	457	324	214	417	25	33	33	154	41
30	84	120	324	540	273	186	1,020	23	25	95	45	41
31	72		356	294	272	837				19	78	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					694	5.8	95.9	0.551		0.64		
November.....					3,170	82	472	2.71		3.02		
December.....					439	35	128	.736		.85		
January.....					2,000	102	277	1.59		1.83		
February.....					422	100	191	1.10		1.14		
March.....					2,980	95	682	3.92		4.52		
April.....					2,170	186	769	4.42		4.93		
May.....					2,430	171	610	3.51		4.05		
June.....					475	23	104	.598		.67		
July.....					363	15	46.9	.270		.31		
August.....					5,000	14	250	1.44		1.66		
September.....					1,080	41	156	.897		1.00		
The year.....					5,000	5.8	315	1.81		24.62		

## Tuscarora Creek near Port Royal

LOCATION.- Water-stage recorder at highway bridge 2 miles southwest of Port Royal, Juniata County.

DRAINAGE AREA.- 205 square miles.

RECORDS AVAILABLE.- August 1911 to September 1933.

EXTREMES.- Maximum discharge during year, about 8,900 second-feet Aug. 24 (gage height, 13.41 feet); minimum, 6.6 second-feet Oct. 3 (gage height, 2.38 feet).

1911-33: Maximum discharge (estimated), 13,000 second-feet Oct. 23, 1929 (gage height, 16.21 feet); minimum, 1 second-feet Aug. 31, Sept. 4-6, 14, 18, 1913, Sept. 21, 1914.

REMARKS.- Records fair. Discharge estimated for periods of ice effect, Dec. 15-23, Feb. 10-18. Regulation at low and medium stages from operation of gristmills upstream.

AVERAGE DISCHARGE.- 22 years (1911-33), 263 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	278	167	300	283	189	434	237	471	44	28	116
2	11	512	146	192	274	177	424	241	336	560	27	111
3	9.0	281	137	228	234	165	410	1,210	268	1,390	31	171
4	13	195	135	234	202	151	392	690	226	399	36	1,440
5	20	156	125	223	176	135	359	493	215	165	30	727
6	208	137	113	192	130	127	339	651	194	109	27	390
7	344	127	109	169	180	132	1,460	1,010	162	84	29	259
8	122	121	105	153	270	619	1,120	1,090	470	72	26	194
9	65	196	93	153	150	452	738	1,740	252	63	23	158
10	49	2,480	83	160	130	326	613	2,340	235	63	38	132
11	39	1,310	66	160	120	235	342	1,620	153	56	515	118
12	32	700	106	225	115	251	1,400	1,070	129	50	111	120
13	30	460	95	176	115	274	1,240	840	111	49	56	122
14	33	349	92	146	120	1,740	816	816	100	47	100	107
15	28	286	83	165	135	2,060	634	634	94	45	65	410
16	26	245	77	157	160	1,410	572	1,330	89	46	46	489
17	42	301	74	153	190	864	1,470	1,450	90	54	39	434
18	1,990	242	71	155	250	663	2,280	940	87	48	37	294
19	1,130	1,150	70	177	308	1,100	1,630	700	77	40	28	204
20	520	1,970	70	184	462	1,800	1,730	552	69	34	29	214
21	303	856	72	148	619	1,910	1,210	512	66	37	42	153
22	200	552	85	181	463	1,280	940	396	61	34	40	128
23	148	406	140	239	389	914	738	326	57	39	471	118
24	137	346	236	192	320	731	592	311	54	39	6,700	111
25	113	295	581	197	274	572	339	395	50	37	1,180	109
26	98	268	468	1,870	304	552	463	277	54	39	499	92
27	303	212	314	1,200	237	493	385	263	54	45	320	86
28	269	158	486	722	196	512	330	324	60	43	229	80
29	188	140	431	493	424	295	265	263	50	36	179	78
30	145	150	378	388	368	259	660	660	44	27	145	77
31	119	396	320	320	362	729	729	729	32	120	120	77
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October					1,990	9.0	218	1.06		1.22		
November					2,480	121	496	2.42		2.70		
December					581	66	181	.883		1.02		
January					1,870	146	311	1.52		1.75		
February					619	115	243	1.18		1.23		
March					2,060	127	677	3.30		3.80		
April					2,280	259	798	3.89		4.34		
May					2,340	237	778	3.79		4.37		
June					471	44	146	.712		.79		
July					1,390	27	123	.600		.69		
August					6,700	23	363	1.77		2.04		
September					1,440	77	241	1.18		1.32		
The year					6,700	9.0	382	1.86		25.27		



Cocolannus Creek near Millerstown

LOCATION.- Water-stage recorder at highway bridge 2.3 miles northeast of Millerstown, Perry County, and 3 miles above confluence with Juniata River.

DRAINAGE AREA.- 55.8 square miles.

RECORDS AVAILABLE.- February 1930 to September 1933.

EXTREMES.- Maximum gage height during year, 8.20 feet Aug. 24 (discharge not determined); minimum discharge, 1.5 second-feet Oct. 4 (gage height, 0.86 foot).

1930-33: Maximum gage height, that of Aug. 24, 1933; minimum discharge, 0.7 second-foot Aug. 15, 1932 (gage height, 0.81 foot).

REMARKS.- Records fair except those for extremely high stages, which are poor. Discharge estimated for periods of ice effect, Nov. 29, Dec. 16-23, Jan. 14, Feb. 10-19, and for period of missing gage height record, Oct. 1-3. Some regulation at low stages from gristmill operations upstream.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.9	293	57	83	73	63	124	55	92	11	5.8	46
2	1.8	200	53	83	73	57	117	55	79	53	6.0	35
3	1.8	124	48	75	63	52	126	181	67	146	14	107
4	2.3	94	46	67	53	46	126	111	61	48	35	1,220
5	159	81	50	67	52	42	106	92	57	27	10	300
6	754	67	40	55	61	42	102	149	57	20	6.8	157
7	152	67	42	53	55	45	266	168	48	17	5.5	104
8	65	55	40	46	79	196	199	338	79	14	6.0	79
9	39	64	34	50	73	120	153	445	46	13	6.4	67
10	32	678	30	52	65	94	146	682	99	12	46	55
11	25	270	37	44	60	77	126	393	50	12	222	48
12	21	166	42	77	55	73	490	251	40	12	44	44
13	20	122	45	55	52	83	321	189	34	10	24	37
14	15	98	42	50	50	278	196	158	30	9.8	23	39
15	14	83	32	52	52	322	148	126	28	9.0	17	109
16	13	73	30	55	50	229	126	182	23	39	13	170
17	34	83	29	52	52	170	738	214	25	29	11	129
18	856	65	28	59	60	136	630	170	20	15	14	92
19	304	698	27	71	75	580	377	138	21	12	11	69
20	148	444	26	69	194	716	340	122	18	8.6	10	67
21	106	219	27	57	192	736	229	117	15	8.6	8.6	55
22	85	153	30	93	129	411	186	92	16	8.8	9.4	46
23	65	117	35	115	117	240	148	75	19	7.8	504	40
24	63	104	53	100	100	168	124	197	16	7.82	600	52
25	50	92	115	92	89	131	109	204	14	13	430	40
26	48	83	139	442	89	131	98	135	13	8.3	184	32
27	171	65	89	252	73	129	83	185	17	8.8	113	32
28	111	67	129	166	65	117	73	124	15	8.1	85	32
29	89	63	113	122	102	65	104	11	11	7.0	63	32
30	73	73	109	100	96	57	141	12	12	6.4	52	27
31	63		115	83		100		111		5.1	42	
Month					Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....					856	1.8	116	2.08	2.40			
November.....					698	55	162	2.90	3.24			
December.....					139	26	55.9	1.00	1.15			
January.....					442	44	91.5	1.64	1.89			
February.....					194	50	76.6	1.41	1.47			
March.....					736	42	187	3.35	3.86			
April.....					738	57	204	3.66	4.08			
May.....					682	55	184	3.30	3.80			
June.....					99	11	37.4	.670	.75			
July.....					146	5.1	19.6	.351	.40			
August.....					2,600	5.5	149	2.67	3.08			
September.....					1,220	27	112	2.01	2.24			
The year.....					2,600	1.8	117	2.10	28.36			

Sherman Creek at Shermendale

LOCATION.- Water-stage recorder at highway bridge at Shermandale, Perry County. Zero of gage is 421.90 feet above mean sea level.

DRAINAGE AREA.- 200 square miles.

RECORDS AVAILABLE.- September 1929 to September 1933.

EXTREMES.- Maximum gage height during year, 14.05 feet Aug. 24 (discharge not determined); minimum discharge, 6.7 second-feet Oct. 3 (gage height, 0.99 foot).

1929-33: Maximum gage height, that of Aug. 24, 1933; minimum discharge, 3.9 second-feet Dec. 1, 1930 (gage height, 0.72 foot).

Maximum stage known, 20.34 feet July 22, 1927 (discharge not determined).

REMARKS.- Records fair except those for extremely high stages, which are poor. Discharge estimated for periods of ice effect, Dec. 15-22, Feb. 10-18, and for periods of missing gage height record, Nov. 12, 13, Dec. 1-6. Regulated from power operations upstream. Water-stage recorder, well, and shelter furnished by United States Engineer Office, Baltimore, Md.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct..	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	1,270	206	303	299	238	471	328	290	65	42	252
2	14	828	203	238	286	231	447	324	246	549	44	220
3	11	447	192	242	262	216	452	730	223	1,220	80	344
4	15	327	186	235	231	201	423	461	204	330	106	2,410
5	447	270	182	258	219	186	377	377	201	176	56	866
6	697	236	166	212	193	176	381	558	204	126	45	54
7	240	221	156	197	265	193	962	857	177	103	43	394
8	106	203	153	179	367	666	758	1,110	414	93	35	323
9	67	410	137	186	224	432	621	1,440	234	80	36	281
10	61	3,750	126	186	190	337	563	2,280	458	80	347	245
11	41	1,410	134	186	180	266	486	1,370	212	75	1,550	214
12	38	803	140	270	175	274	1,280	1,020	172	67	264	231
13	47	563	146	223	170	312	987	843	156	64	157	210
14	43	447	140	190	170	1,400	758	758	139	60	229	207
15	42	372	110	190	175	1,770	626	621	130	56	137	762
16	38	323	90	186	185	1,100	724	902	124	70	90	996
17	188	319	84	183	200	814	3,550	1,010	127	77	80	696
18	3,230	274	80	179	230	664	2,750	758	118	60	174	478
19	1,230	1,870	80	194	294	1,310	2,260	632	106	50	141	360
20	533	1,540	80	204	732	1,900	2,950	552	96	49	85	311
21	341	816	85	169	720	2,120	1,620	547	95	56	72	263
22	232	579	113	176	491	1,390	1,150	428	83	61	75	234
23	189	456	206	212	428	990	901	368	77	56	1,960	210
24	175	395	358	179	359	786	758	369	74	52	8,900	193
25	146	349	491	165	328	653	653	456	69	102	1,820	176
26	140	323	337	1,230	354	632	573	328	123	70	858	166
27	328	266	282	883	296	584	486	533	102	78	581	152
28	261	228	423	632	250	600	423	372	77	60	444	138
29	196	210	368	466		501	386	307	71	50	369	139
30	166	228	337	368		442	350	376	65	44	289	122
31	146		377	328		428		373		43	252	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					3,230	11	304	1.52		1.75		
November.....					3,750	203	658	3.29		3.67		
December.....					491	80	199	.995		1.15		
January.....					1,230	165	291	1.46		1.68		
February.....					732	170	295	1.48		1.54		
March.....					2,120	176	704	3.52		4.06		
April.....					3,550	350	971	4.86		5.42		
May.....					2,280	307	683	3.42		3.94		
June.....					458	65	162	.810		.90		
July.....					1,220	43	133	.665		.77		
August.....					8,900	35	625	3.12		3.60		
September.....					2,410	122	404	2.02		2.25		
The year.....					8,900	11	453	2.26		30.75		



## Cocolamus Creek near Millerstown

LOCATION.- Water-stage recorder at highway bridge 2.3 miles northeast of Millerstown, Perry County, and 3 miles above confluence with Juniata River.

DRAINAGE AREA.- 55.8 square miles.

RECORDS AVAILABLE.- February 1930 to September 1933.

EXTREMES.- Maximum gage height during year, 8.20 feet Aug. 24 (discharge not determined); minimum discharge, 1.5 second-feet Oct. 4 (gage height, 0.86 foot).

1930-33: Maximum gage height, that of Aug. 24, 1933; minimum discharge, 0.7 second-foot Aug. 15, 1932 (gage height, 0.81 foot).

REMARKS.- Records fair except those for extremely high stages, which are poor. Discharge estimated for periods of ice effect, Nov. 29, Dec. 16-23, Jan. 14, Feb. 10-19, and for period of missing gage height record, Oct. 1-3. Some regulation at low stages from gristmill operations upstream.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.9	293	57	83	73	63	124	55	92	11	5.8	46
2	1.8	200	53	83	73	57	117	55	79	53	6.0	35
3	1.8	124	48	75	63	52	126	181	67	146	14	107
4	2.3	94	46	67	53	48	126	111	61	48	35	1,220
5	159	81	50	67	52	42	106	92	57	27	10	300
6	754	67	40	55	61	42	102	149	57	20	6.8	157
7	152	67	42	53	55	45	266	168	48	17	5.5	104
8	65	55	40	46	79	196	199	338	79	14	6.0	79
9	39	64	34	50	73	120	153	445	46	13	6.4	67
10	32	678	30	52	65	94	146	682	99	12	46	55
11	25	270	37	44	60	77	126	393	50	12	222	48
12	21	166	42	77	55	73	490	251	40	12	44	44
13	20	122	45	55	52	83	321	109	34	10	24	37
14	15	98	42	50	50	278	196	153	30	9.8	23	39
15	14	83	32	52	52	322	148	126	28	9.0	17	109
16	13	73	30	55	50	229	126	182	23	39	13	170
17	34	83	29	52	52	170	738	214	25	29	11	129
18	856	65	28	59	60	136	630	170	20	15	14	92
19	304	698	27	71	75	580	377	138	21	12	11	69
20	148	444	26	69	194	716	340	122	18	8.6	10	67
21	106	219	27	57	192	736	229	117	15	8.6	8.6	55
22	85	153	30	93	129	411	186	92	16	8.8	9.4	46
23	65	117	35	115	117	240	148	75	19	7.9	504	40
24	63	104	53	100	100	168	124	197	16	7.9	2,600	52
25	50	92	115	92	89	131	109	204	14	13	430	40
26	48	83	139	442	89	131	98	135	13	8.3	184	32
27	171	66	89	252	73	129	83	185	17	8.8	113	32
28	111	67	129	166	65	117	73	124	15	8.1	85	32
29	89	63	113	122	102	65	104	11	11	7.0	63	32
30	73	73	109	100	96	57	141	12	12	6.4	52	27
31	63	115	83	100	111	100	111	111	111	5.1	42	27
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					856	1.8	116	2.08		2.40		
November.....					698	55	162	2.90		3.24		
December.....					139	26	55.9	1.00		1.15		
January.....					442	44	91.5	1.64		1.89		
February.....					194	50	78.6	1.41		1.47		
March.....					736	42	187	3.35		3.86		
April.....					738	57	204	3.66		4.08		
May.....					682	55	184	3.30		3.80		
June.....					99	11	37.4	.670		.75		
July.....					146	5.1	19.6	.351		.40		
August.....					2,600	5.5	149	2.67		3.08		
September.....					1,220	27	112	2.01		2.24		
The year.....					2,600	1.3	117	2.10		28.36		

## Sherman Creek at Shermandale

LOCATION.- Water-stage recorder at highway bridge at Shermandale, Perry County. Zero of gage is 421.90 feet above mean sea level.

DRAINAGE AREA.- 200 square miles.

RECORDS AVAILABLE.- September 1929 to September 1933.

EXTREMES.- Maximum gage height during year, 14.05 feet Aug. 24 (discharge not determined); minimum discharge, 6.7 second-feet Oct. 3 (gage height, 0.99 foot).

1929-33: Maximum gage height, that of Aug. 24, 1933; minimum discharge, 3.9 second-feet Dec. 1, 1930 (gage height, 0.72 foot).

Maximum stage known, 20.34 feet July 22, 1927 (discharge not determined).

REMARKS.- Records fair except those for extremely high stages, which are poor. Discharge estimated for periods of ice effect, Dec. 15-22, Feb. 10-18, and for periods of missing gage height record, Nov. 12, 13, Dec. 1-6. Regulation from power operations upstream. Water-stage recorder, well, and shelter furnished by United States Engineer Office, Baltimore, Md.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct..	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	1,270	206	303	299	238	471	328	290	65	42	252
2	14	828	203	238	286	231	447	324	246	549	44	220
3	11	447	192	242	262	216	452	730	223	1,220	80	344
4	15	327	186	235	231	201	423	461	204	330	106	2,410
5	447	270	182	238	219	186	377	377	201	176	56	866
6	697	236	166	212	193	176	381	558	204	126	45	540
7	240	221	156	197	265	193	962	857	177	103	43	394
8	106	203	153	179	367	666	758	1,110	414	93	35	323
9	67	410	137	186	224	432	621	1,440	234	80	36	281
10	61	3,750	126	186	190	337	563	2,280	458	80	347	245
11	41	1,410	134	186	180	266	486	1,370	212	75	1,550	214
12	38	803	140	270	175	274	1,280	1,020	172	67	264	231
13	47	563	146	223	170	312	987	843	156	64	157	210
14	43	447	140	190	170	1,400	758	758	139	60	229	207
15	42	372	110	190	175	1,770	626	621	130	56	137	762
16	38	323	90	186	185	1,100	724	902	124	70	90	996
17	188	319	84	183	200	814	3,550	1,010	127	77	80	696
18	3,230	274	80	179	230	664	2,750	758	118	60	174	476
19	1,230	1,870	80	194	294	1,310	2,260	632	106	50	141	360
20	553	1,540	80	204	732	1,900	2,950	552	96	49	85	311
21	341	816	85	169	720	2,120	1,620	547	95	56	72	263
22	232	579	113	176	491	1,390	1,150	428	83	61	75	234
23	189	456	206	212	428	990	901	368	77	56	1,960	210
24	175	395	358	179	359	786	758	369	74	52	8,900	193
25	146	349	491	165	328	653	653	456	69	102	1,820	176
26	140	323	337	1,230	354	632	573	328	123	70	858	166
27	328	266	282	883	286	584	486	333	102	78	581	152
28	261	228	423	632	250	600	423	372	77	60	444	138
29	196	210	368	466	501	386	307	307	71	50	369	139
30	166	228	337	368	442	350	376	376	65	44	289	122
31	146	377	328	328	428	428	373	373	43	43	252	122
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October					3,230	11	304	1.52		1.75		
November					3,750	203	658	3.29		3.67		
December					491	80	199	.995		1.15		
January					1,230	165	291	1.46		1.68		
February					732	170	295	1.48		1.64		
March					2,120	176	704	3.52		4.08		
April					3,550	350	971	4.86		5.42		
May					2,280	307	683	3.42		3.94		
June					458	65	162	.810		.90		
July					1,220	43	133	.665		.77		
August					8,900	35	625	3.12		3.60		
September					2,410	122	404	2.02		2.25		
The year					8,900	11	453	2.26		30.73		



Conodoguinet Creek near Hogestown

LOCATION.- Water-stage recorder 1,000 feet above highway bridge, three-eighths mile below mouth of Hogestown Run, and 1 mile northeast of Hogestown, Cumberland County.

DRAINAGE AREA.- 470 square miles.

RECORDS AVAILABLE.- September 1929 to September 1933.

RECORDS AVAILABLE.- September 1929 to September 1930.

EXTREMES.- Maximum discharge during year, 11,800 second-feet Aug. 24 (gauge height, 10.66 feet); minimum, 42 second-feet Oct. 4 (gauge height, 0.69 foot).

1929-33: Maximum discharge, that of Aug. 24, 1933; minimum, 24 second-feet Dec. 16, 1930.

REMARKS.- Records good except those estimated for periods of ice effect, Dec. 17-23, Feb. 11-17, and for period of recorder failure, June 15-20, which are fair. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	68	1,530	467	767	542	437	841	647	574	223	158	542
2	61	2,710	452	591	514	412	841	618	483	687	161	514
3	58	1,370	422	552	462	384	834	800	432	2,390	272	545
4	46	932	417	525	412	356	828	990	412	1,180	592	3,890
5	98	725	383	525	388	342	761	707	388	590	268	2,460
6	1,120	613	362	498	297	304	713	767	393	402	178	1,360
7	822	569	342	442	365	325	1,500	1,010	379	330	161	952
8	480	514	347	393	526	574	1,690	1,120	621	287	169	755
9	281	509	321	388	551	767	1,260	2,580	500	256	161	635
10	202	3,700	295	412	298	536	1,080	3,220	875	241	309	564
11	188	3,260	295	417	280	408	906	3,100	636	237	4,850	493
12	136	1,800	300	472	270	412	1,540	2,080	432	219	1,300	477
13	136	1,260	329	462	270	460	2,100	1,650	374	212	707	488
14	111	971	316	417	270	2,130	1,450	1,410	329	202	547	437
15	113	809	282	388	280	2,700	1,180	1,180	308	198	408	2,310
16												
17	109	701	232	388	290	2,080	1,050	1,280	342	212	316	3,100
18	227	659	210	379	320	1,490	4,200	1,610	338	288	275	2,600
19	5,180	608	205	379	384	1,180	5,710	1,220	338	219	260	1,660
20	4,560	1,780	200	388	514	1,690	3,730	984	321	195	237	1,180
21	1,980	3,800	200	384	912	3,430	4,240	860	300	188	371	945
22	1,140	2,060	210	347	1,690	4,120	3,540	828	256	489	382	803
23	767	1,410	220	356	1,150	2,900	2,500	725	241	223	338	683
24	596	1,080	250	403	919	2,040	1,860	624	237	202	1,240	618
25	493	906	316	383	749	1,610	1,490	586	230	189	9,790	569
26	422	809	556	370	641	1,260	1,260	647	223	195	7,760	525
27												
28	379	737	822	1,030	665	1,180	1,120	596	244	202	2,130	477
29	472	635	755	1,650	542	1,120	958	525	332	192	1,360	457
30	641	536	1,080	1,180	472	1,040	848	726	283	202	1,040	432
31	493	467	1,180	806		926	773	823	241	185	828	412
30	417	472	1,000	707		834	689	802	219	172	683	388
31	342		938	591		785		683		158	574	
Month					Maximum		Minimum		Mean		Per square mile	Run-off in inches
October.....					5,180		46		711		1.51	1.74
November.....					3,800		467		1,260		2.68	2.99
December.....					1,180		200		442		.940	1.08
January.....					1,650		347		551		1.17	1.35
February.....					1,690		270		535		1.14	1.19
March.....					4,120		304		1,230		2.62	3.02
April.....					5,710		689		1,710		3.64	4.06
May.....					3,220		525		1,140		2.43	2.80
June.....					875		219		376		.800	.89
July.....					2,590		158		360		.766	.88
August.....					9,790		158		1,220		2.60	3.00
September.....					3,890		388		1,040		2.21	2.47
The year.....					9,790		46		883		1.88	25.47

## Swatara Creek at Harper Tavern

LOCATION.- Water-stage recorder at highway bridge at Harper Tavern, Lebanon County, 6 miles northeast of Anville, and  $8\frac{1}{2}$  miles below mouth of Little Swatara Creek. Zero of gage is 355.53 feet above mean sea level.

DRAINAGE AREA.- 333 square miles.

RECORDS AVAILABLE.- December 1918 to September 1933.

EXTREMES.- Maximum discharge during year, 25,300 second-feet Aug. 24 (gage height, 17.53 feet); minimum, 12 second-feet Oct. 4 (gage height, 0.07 foot).

1918-33: Maximum discharge, that of Aug. 24, 1933; minimum, 8 second-feet Sept. 24, 25, 1932 (gage height, 0.03 foot).

REMARKS.- Records good except those estimated for periods of ice effect, Dec. 16-26, Feb. 11-20, which are fair. Discharge estimated for period of missing gage height record, May 6, 7. Some regulation at low stages from power operations upstream.

AVERAGE DISCHARGE.- 14 years (1919-33), 538 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	22	3,080	367	652	370	487	973	433	870	306	103	585		
2	23	3,540	343	492	367	498	1,080	414	698	771	92	522		
3	21	1,470	322	469	343	467	995	528	611	3,960	118	484		
4	13	970	312	452	312	436	1,040	510	560	1,530	504	2,750		
5	39	770	293	455	282	399	985	381	482	752	207	2,110		
6	2,320	629	266	421	229	364	896	542	570	524	133	1,090		
7	1,260	1,280	254	370	318	329	1,850	746	458	416	110	795		
8	516	958	242	350	965	418	1,430	758	498	356	100	629		
9	310	770	216	329	1,080	1,260	1,230	1,440	437	315	94	556		
10	232	1,100	200	364	711	756	1,130	2,540	1,600	274	258	514		
11	190	931	197	350	490	594	970	1,620	546	238	1,420	448		
12	142	770	251	393	400	493	2,540	1,510	392	213	478	418		
13	126	652	249	368	355	580	2,110	1,190	342	197	330	378		
14	119	547	227	322	320	1,770	1,580	1,070	300	188	1,340	364		
15	102	482	197	316	300	1,860	1,280	870	280	170	719	700		
16	100	433	175	309	310	1,520	1,150	1,380	261	532	452	2,730		
17	164	566	155	316	330	1,280	5,430	1,390	254	1,380	356	2,030		
18	1,250	448	145	329	360	1,070	5,360	1,020	236	460	322	1,230		
19	964	2,580	140	392	420	1,910	2,840	870	202	293	283	896		
20	611	3,470	140	367	500	2,780	2,030	898	200	238	244	746		
21	448	1,760	145	309	1,830	3,710	1,550	1,080	191	206	218	629		
22	346	1,250	150	380	1,370	2,840	1,280	721	176	257	1,150	547		
23	283	945	170	471	1,020	2,110	1,040	625	166	372	3,360	490		
24	257	795	220	370	970	1,690	920	794	149	196	20,700	482		
25	218	698	310	339	845	1,310	820	1,280	130	192	12,600	444		
26	196	698	430	660	765	1,320	746	721	139	210	3,190	588		
27	479	524	547	581	769	1,270	652	652	161	180	2,010	360		
28	424	430	917	518	553	1,040	564	929	196	160	1,310	336		
29	306	401	845	467			896	518	787	168	132	995		
30	268	378	721	425			795	471	2,130	186	128	770		
31	224		795	399			746		1,160	105	652	519		
Month					Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October.....					2,320		13		386		1.16		1.34	
November.....					3,540		378		1,110		3.33		3.72	
December.....					917		140		321		.964		1.11	
January.....					660		309		410		1.23		1.42	
February.....					1,830		229		603		1.81		1.88	
March.....					3,710		329		1,190		3.57		4.12	
April.....					5,430		471		1,510		4.53		5.05	
May.....					2,340		381		987		2.96		3.41	
June.....					1,600		130		382		1.15		1.28	
July.....					3,960		105		492		1.48		1.71	
August.....					20,700		92		1,770		5.32		6.13	
September.....					2,780		319		810		2.45		2.71	
The year.....					20,700		13		832		2.50		33.88	



## West Conewago Creek near Manchester

LOCATION.- Water-stage recorder 500 feet above Manchester-York Haven highway bridge and 1 1/2 miles north of Manchester, York County.

DRAINAGE AREA.- 510 square miles (revised).

RECORDS AVAILABLE.- October 1928 to September 1933.

EXTREMES.- Maximum discharge during year, 47,600 second-feet Aug. 24 (gage height, 24.14 feet); minimum, 5.4 second-feet Oct. 3 (gage height, 1.31 feet).

1928-33: Maximum discharge, that of Aug. 24, 1933; minimum, 2 second-feet Aug. 7, 8, Oct. 20, 1930.

REMARKS.- Records fair except those subsequent to Apr. 20 and those for estimated periods which are poor. Discharge estimated for periods of missing gage-height record Oct. 22-29, Nov. 29 to Dec. 24, Mar. 18-21, June 28, July 18-25, and for period of ice effect, Feb. 12-18. All costs of equipment, maintenance, and operation of station paid by Philadelphia Electric Co., Philadelphia, Pa.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	4,710	320	934	413	385	837	491	249	89	56	463
2	8.5	5,380	310	548	399	362	831	461	213	808	52	449
3	8.1	1,150	300	476	371	327	745	636	196	3,600	402	408
4	15	763	290	476	318	301	1,060	741	179	1,690	2,340	440
5	17	602	280	517	289	265	1,040	461	176	445	659	487
6	1,100	538	260	496	265	246	704	666	173	246	229	395
7	1,000	1,770	240	404	251	253	2,420	1,070	172	179	129	321
8	264	1,550	230	358	1,640	1,700	1,450	1,460	498	152	93	281
9	145	989	220	378	1,290	850	920	2,640	372	129	83	267
10	90	5,470	220	820	432	466	788	4,500	221	109	82	244
11	65	2,640	230	602	303	306	675	2,060	185	167	5,640	224
12	54	1,400	240	486	280	242	3,560	1,440	170	126	1,800	224
13	49	975	260	404	270	288	2,450	1,220	2,140	105	471	218
14	39	782	340	314	280	3,410	1,220	996	519	87	394	237
15	30	664	280	285	320	2,840	968	806	186	78	362	639
16	22	586	220	306	310	1,900	888	1,170	136	80	220	4,270
17	56	591	200	301	320	1,020	6,060	1,160	134	76	155	3,940
18	6,300	554	190	301	380	950	4,110	733	126	74	126	1,070
19	7,910	3,610	185	293	702	1,100	3,350	586	124	70	89	656
20	1,850	4,730	185	293	2,530	3,000	12,000	517	119	68	189	517
21	940	1,320	185	261	2,320	5,000	4,370	564	97	67	404	454
22	700	975	200	273	1,020	3,380	2,250	486	89	66	999	619
23	550	757	230	385	856	1,850	1,640	385	81	66	5,920	329
24	450	664	300	358	716	1,600	1,290	358	78	66	39,100	302
25	380	618	676	265	596	1,180	1,120	362	68	90	9,440	288
26	350	664	1,730	1,390	727	1,290	934	362	60	129	1,840	264
27	400	624	1,190	1,370	538	1,730	769	334	350	142	1,160	237
28	750	399	3,160	888	413	1,070	669	413	170	134	878	224
29	450	330	1,780	686		860	602	358	126	117	705	240
30	246	330	1,150	517		716	538	281	93	103	586	231
31	209		1,260	447		675		261		99	602	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	7,910	8.1	788	1.54	1.78
November	5,470	330	1,530	3.00	3.35
December	3,160	185	544	1.07	1.23
January	1,390	261	511	1.00	1.15
February	2,530	251	663	1.30	1.35
March	5,000	242	1,280	2.51	2.89
April	12,000	538	2,010	3.94	4.40
May	4,500	261	903	1.77	2.04
June	2,140	60	250	.490	.65
July	3,600	66	305	.598	.69
August	39,100	52	2,420	4.74	5.46
September	4,270	218	631	1.24	1.38
The year	39,100	8.1	987	1.93	26.27

## Codorus Creek at Spring Grove

LOCATION.- Water-stage recorder at highway bridge at Spring Grove, York County. Zero of gage is 436.22 feet above mean sea level.

DRAINAGE AREA.- 74.3 square miles.

RECORDS AVAILABLE.- April 1929 to September 1933.

EXTREMES.- Maximum discharge during year, about 11,200 second-feet Aug. 23 (gage height, 11.79 feet); minimum discharge, 6 second-feet Oct. 2; minimum gage height, 0.6 foot Aug. 10.

1929-33: Maximum discharge, that of Aug. 23, 1933; minimum, probably less than 2.2 second-feet in September 1932.

REMARKS.- Records good except those for low stages and for estimated periods, which are fair, and those for high stages, which are poor. Discharge estimated for period of ice effect, Dec. 18-20, and for periods of missing gage-height record, Aug. 12-14, 16, 17. Regulation at low stages from operations at paper mill above station. Well and shelter for water-stage recorder, and services of observer, furnished by Glatfelter Paper Co., Spring Grove, Pa.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	413	58	86	78	77	138	123	55	25	19	104
2	10	140	56	76	79	74	123	118	52	289	32	95
3	14	83	58	73	70	70	126	246	49	674	48	89
4	12	65	56	76	66	68	161	125	45	64	186	97
5	20	59	52	76	60	61	117	113	45	41	40	82
6	313	51	46	63	60	58	118	166	41	33	34	72
7	37	158	43	61	74	69	185	136	43	29	31	65
8	19	99	39	54	216	117	129	278	116	28	24	64
9	16	98	38	93	79	69	120	203	50	77	18	59
10	16	330	39	82	66	56	115	359	43	40	45	57
11	15	171	40	65	76	49	106	213	41	29	252	54
12	14	128	46	65	71	56	412	190	144	26	51	62
13	12	102	49	54	70	112	223	170	626	27	51	64
14	14	86	59	53	72	314	186	150	66	25	43	64
15	13	78	43	55	80	178	164	131	54	24	31	105
16	13	70	33	53	69	126	161	166	47	26	27	410
17	70	75	31	52	72	114	434	129	58	29	25	130
18	465	63	30	50	89	109	274	108	44	25	26	84
19	356	381	30	53	87	253	614	97	39	23	22	70
20	118	178	31	46	287	526	1,260	94	34	22	129	85
21	70	128	34	50	173	614	677	104	32	21	38	64
22	52	104	38	58	131	372	448	86	30	20	226	58
23	44	90	42	53	125	295	335	80	26	19	2,590	55
24	39	86	81	44	108	238	284	78	27	20	2,680	54
25	35	78	113	46	106	201	246	83	26	20	625	49
26	33	91	82	323	103	219	207	74	26	25	304	48
27	43	64	114	148	85	187	179	73	34	35	209	47
28	34	56	208	131	80	159	162	78	27	22	168	47
29	28	54	140	103	138	145	65	26	20	139	62	47
30	25	56	123	89	126	131	63	26	19	119	47	47
31	25		120	83		131		63		21	110	
Month					Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....					465	10	64	0.861	0.99			
November.....					413	51	121	1.63	1.82			
December.....					208	30	63.6	.856	.99			
January.....					323	44	77.9	1.05	1.21			
February.....					287	60	97.6	1.31	1.36			
March.....					614	49	169	2.27	2.62			
April.....					1,260	106	266	3.58	3.99			
May.....					359	63	134	1.80	2.08			
June.....					626	26	65.7	.884	.99			
July.....					674	19	58.0	.781	.90			
August.....					2,680	18	269	3.62	4.17			
September.....					410	47	81.4	1.10	1.23			
The year.....					2,680	10	122	1.64	22.35			



South Branch of Codorus Creek near York

LOCATION.- Water-stage recorder just below dam of pumping station of York Water Co., half a mile above confluence with Godorus Creek, and 3 miles southwest of York, York County. Zero of gage is 373.03 feet above mean sea level.

DRAINAGE AREA.- 117 square miles.

RECORDS AVAILABLE.- May 1925 to September 1933.

EXTREMES.- Maximum discharge during year, about 19,300 second-feet Aug. 23 (gage height, 17.97 feet); minimum, 10 second-feet Oct. 4 (gage height, 0.17 foot).

1926-33: Maximum discharge, that of Aug. 23, 1933; minimum, 7.5 second-feet Sept. 5, 1929. (Minimum discharge of Sept. 24, 1932, published in error; correct discharge, 8.2 second-feet).

REMARKS.- Records fair except those for high stages, which are poor. Discharge estimated for periods of ice effect, Dec. 18-23, Feb. 12-15. Records based on twice-daily stage readings for Feb. 13-19 and partly estimated for Aug. 23-29. Municipal water supply for York diverted above gage not included in records except in part of monthly table. Diversion records, water-stage recorder, well, and shelter furnished by York Water Co., York, Pa.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	414	89	133	133	132	213	245	106	74	40	253
2	16	262	88	116	142	127	195	233	97	320	38	239
3	15	159	86	113	110	119	209	406	97	1,110	86	227
4	14	105	85	112	107	113	246	241	100	161	618	138
5	23	91	81	112	107	105	197	220	95	98	81	218
6	622	88	76	98	97	100	190	305	92	73	51	155
7	87	191	72	96	107	115	296	260	89	65	43	172
8	35	137	69	89	278	184	226	342	232	61	44	152
9	31	155	66	147	127	118	211	318	102	71	44	186
10	29	305	67	143	106	97	200	438	87	85	60	87
11	27	222	69	106	123	83	181	328	84	64	266	131
12	26	177	80	104	119	92	498	310	106	54	76	138
13	28	147	79	92	114	140	350	289	691	52	62	144
14	24	208	91	88	108	344	303	266	126	50	253	159
15	24	110	70	90	113	231	280	237	101	54	71	218
16	25	103	55	90	104	175	280	280	97	138	51	477
17	100	117	53	86	101	165	579	243	107	77	50	134
18	609	92	51	83	115	161	512	204	92	54	52	106
19	505	430	49	84	124	263	615	187	82	49	54	135
20	160	268	49	80	349	514	1,620	184	78	50	418	138
21	102	202	50	86	269	751	972	217	71	49	102	123
22	84	165	54	91	202	550	675	170	68	48	1,140	143
23	77	146	63	87	205	440	550	91	65	48	5,550	86
24	69	139	110	76	176	372	488	137	63	44	7,840	212
25	57	128	156	80	180	339	429	159	62	41	1,400	142
26	50	146	114	447	175	350	383	141	64	50	792	78
27	66	106	129	246	148	310	339	133	72	77	584	106
28	62	94	269	213	134	256	314	151	71	54	462	114
29	56	92	187	176		224	284	127	68	52	361	128
30	45	91	172	150		202	262	125	77	48	298	107
31	45		170	141		204		121		42	269	

Month	Observed			Diversión second-feet	Corrected for Diversión		
	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October.....	622	14	101	9.9	111	0.949	1.09
November.....	430	88	169	11.2	180	1.54	1.72
December.....	269	49	93.5	10.4	104	1.889	1.03
January.....	447	76	124	9.9	134	1.14	1.31
February.....	349	97	149	10.0	159	1.36	1.42
March.....	751	83	238	9.8	248	2.12	2.44
April.....	1,620	181	403	9.7	413	3.53	3.94
May.....	438	91	229	10.1	239	2.04	2.35
June.....	691	62	111	13.0	124	1.06	1.18
July.....	1,110	41	107	12.5	120	1.03	1.19
August.....	7,840	38	688	11.6	698	5.96	6.87
September.....	477	85	162	11.1	173	1.48	1.65
The year.....	7,840	14	215	10.8	226	1.93	26.19

Muddy Creek at Castle Fin

LOCATION.- Water-stage recorder 1 mile downstream from Castle Pin, York County, and 2 3/4 miles upstream from mouth of creek.

DRAINAGE AREA.- 133 square miles (revised).

RECORDS AVAILABLE.- October 1928 to September 1933.

EXTREMES.- Maximum discharge during year, about 16,600 second-feet Aug. 23 (gage height, 21.11 feet); minimum, 5.5 second-feet Oct. 13 (gage height, 0.95 foot).

1928-33: Maximum discharge, that of Aug. 23, 1933; minimum gage height, 0.90 foot Nov. 29, 1930 (discharge not determined).

REMARKS.- Records good except those for extremely low stages subsequent to July 3 which are fair, and those above 2,000 second-feet and for estimated periods, which are poor. Discharge estimated for periods of ice effect, Dec. 17-24, Feb. 12-17, and for periods of missing gage-height record, June 17-19, Aug. 23-30. Slight regulation caused by operation of hydroelectric plant upstream. All costs of equipment, maintenance, and operation of station paid by Philadelphia Electric Co., Philadelphia, Pa.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	758	116	152	146	154	241	280	194	157	52	302
2	29	228	119	148	149	152	235	277	188	733	52	249
3	31	146	103	170	137	146	228	445	182	851	91	238
4	33	119	108	133	133	141	260	297	177	156	647	277
5	63	111	109	135	124	136	225	267	177	114	72	228
6		775	101	99	122	145	131	219	371	171	95	58
7	103	276	96	120	148	149	390	307	170	89	52	192
8	59	169	92	118	299	246	287	371	286	80	53	185
9	41	155	82	180	165	162	264	339	182	80	150	178
10	52	254	89	167	163	148	247	390	173	79	58	172
11	40	186	99	136	162	125	231	324	162	74	161	163
12	42	160	109	133	155	133	568	310	168	74	69	178
13	38	138	114	125	145	179	373	304	544	73	85	178
14	39	128	126	112	140	340	328	283	191	69	119	360
15	46	119	96	119	150	246	304	267	177	70	72	270
16	46	114	89	114	170	197	300	311	171	136	54	274
17	200	137	82	116	150	185	1,100	277	180	83	65	289
18	572	121	80	110	162	182	574	247	160	69	58	234
19	323	514	79	112	174	248	518	235	150	67	59	213
20	135	278	78	112	300	478	1,130	242	146	65	152	209
21	100	203	78	112	244	739	714	272	140	64	94	184
22	95	170	90	116	200	486	595	225	146	62	531	169
23	77	154	86	121	197	391	498	216	126	60	4,600	157
24	76	146	110	112	182	334	447	214	136	47	5,500	156
25	67	138	219	100	180	297	421	225	125	93	1,200	153
26	65	154	170	406	182	314	388	210	145	111	600	146
27	103	126	171	222	157	290	352	207	168	94	400	122
28	77	152	293	204	148	257	331	238	136	66	320	130
29	68	128	222	174		235	314	213	131	63	280	80
30	68	132	191	159		225	287	216	130	53	280	124
31	56		185	152		222		206		54	271	
Month					Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....					775	29	114	0.857	0.99			
November.....					758	101	190	1.43	1.60			
December.....					293	78	122	.917	1.06			
January.....					406	100	146	1.10	1.27			
February.....					300	124	172	1.29	1.34			
March.....					739	125	247	1.86	2.14			
April.....					1,130	219	412	3.10	3.46			
May.....					445	206	277	2.08	2.40			
June.....					544	125	178	1.34	1.50			
July.....					851	47	128	.962	1.11			
August.....					5,500	52	524	3.94	4.54			
September.....					360	80	201	1.51	1.68			
The year.....					5,500	29	226	1.70	23.09			



POTOMAC BASIN



LOCATION.- Water-stage recorder 2 miles upstream from Thomas W. Koon Dam, half a mile upstream from backwater from the dam, 3 miles south of Bedford Valley Post Office, Bedford County.

RECORDS AVAILABLE.- September 1932 to September 1933.

EXTREMES.- Maximum during period Sept. 1932 to Sept. 1933, 820 second-foot Mar. 14 (gage height, 3.55 feet); minimum, 1.7 second-foot Sept. 11, 18-22, 26, 1932 (gage height, 1.01 feet).

REMARKS.- Records good except those above 200 second-feet and those estimated because of ice Feb. 11-15 or because of missing gage height record Mar. 14-17, May 29 to June 6, which are fair. Records furnished by United States Geological Survey, Washington, D. C.

Daily discharge, in second-feet, Sept. 3-30, 1932

Sept. 3	- 1.8	c.f.s.	Sept. 10	- 1.8	c.f.s.	Sept. 17	- 1.8	c.f.s.	Sept. 24	- 1.8	c.f.s.
4	- 1.9	"	11	- 1.7	"	18	- 1.7	"	25	- 1.8	"
5	- 1.9	"	12	- 1.8	"	19	- 1.7	"	26	- 1.7	"
6	- 1.9	"	13	- 1.8	"	20	- 1.7	"	27	- 2.0	"
7	- 1.8	"	14	- 1.8	"	21	- 1.7	"	28	- 3.2	"
8	- 1.9	"	15	- 1.9	"	22	- 1.7	"	29	- 2.6	"
9	- 1.8	"	16	- 1.9	"	23	- 1.8	"	30	- 2.3	"

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.2	16.5	14.5	20	38	24	68	35	23	5.8	5.3	4.8
2	2.0	12.5	13.5	17.5	38	24	62	37	20	6.3	4.2	4.4
3	2.0	8.8	13.5	17.5	32	23	62	50	18	17	3.8	6.8
4	2.2	7.5	13	18.5	30	21	56	36	20	9.5	7.2	17.5
5	3.8	6.9	13.5	18.5	29	19	50	34	18	6.9	4.4	12
6	12	6.6	12.5	16	29	19	72	85	15	5.8	3.2	7.2
7	6.1	6.9	12	16	30	29	135	86	17.5	5.3	3.2	5.6
8	3.4	6.9	12	15	40	54	84	176	25	5.3	3.2	4.8
9	2.7	18	10.5	17	24	38	75	253	16	4.8	3.1	4.6
10	2.6	102	10	18	30	29	71	402	20	5.3	4.4	4.2
11	2.4	33	9.8	15.5	25	26	62	250	14.5	4.8	7.8	4.0
12	2.3	24	11.5	17	25	26	182	174	13	4.4	4.4	5.3
13	2.4	16.5	11	12.5	25	170	93	138	11.5	4.4	3.6	5.8
14	2.7	17	9.8	12	25	430	82	114	11	4.2	3.6	10
15	2.7	14.5	6.6	12	25	300	71	86	11	4.6	3.1	24
16	2.7	13.5	7.5	12	25	180	98	86	11	5.0	3.1	15
17	21	17	7.8	12	24	130	232	66	15.5	4.4	3.2	16.5
18	28	13	8.5	12.5	25	98	138	54	12	4.2	3.2	8.5
19	14.5	202	8.5	12.5	21	275	166	48	10	3.8	2.9	6.6
20	9.5	38	9.8	12.5	40	278	323	44	9.5	3.6	5.8	9.2
21	6.3	53	12	12.5	34	223	232	40	9.2	3.8	4.2	6.3
22	5.0	38	15.5	24	25	148	165	36	8.1	3.8	3.6	5.8
23	4.6	32	14.5	22	27	119	114	33	7.5	3.6	11	5.6
24	5.0	27	23	18	25	95	91	30	7.2	4.0	62	5.0
25	4.6	25	29	28.7	29	77	77	33	6.9	7.2	13.5	4.6
26	4.4	23	20	250	35	68	64	27	7.8	6.6	7.5	4.4
27	12	17.5	19	93	28	75	53	34	8.5	8.5	6.7	4.4
28	8.5	16	34	71	25	73	47	28	7.8	5.6	6.3	4.4
29	6.1	14.5	24	51	59	42	26	6.9	6.9	4.4	5.0	4.4
30	5.0	15	24	43	51	51	37	30	6.1	3.8	4.2	4.2
31	4.8		28	40	57	57		26		5.8	4.4	
Month					Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....					28	2.0	6.24	0.207	0.24			
November.....					202	6.6	29.8	.987	1.10			
December.....					34	6.6	14.8	.490	.56			
January.....					259	12	31.2	1.03	1.19			
February.....					40	21	28.8	.954	.99			
March.....					430	19	104	3.44	3.97			
April.....					323	37	103	3.41	3.80			
May.....					402	26	83.8	2.77	3.19			
June.....					25	6.1	12.9	.427	.48			
July.....					17	3.6	5.56	.184	.21			
August.....					62	2.9	6.81	.225	.26			
September.....					24	4.0	7.53	.249	.28			
The year.....					430	2.0	36.3	1.20	16.27			

LOCATION.- Chain gage at highway bridge a tenth of a mile north of Pennsylvania-Maryland State Line, 3 miles south of Sylvan, Franklin County, and 15 miles above mouth.

RECORDS AVAILABLE.- June 1930 to September 1933.

**EXTREMES.**— Maximum discharge during period ending Sept. 30, 1930, 36 second-feet June 20 (gage height, 1.29 feet); minimum, 3.0 second-feet Aug. 8 (gage height, 0.64 foot).

Maximum discharge during year ending Sept. 30, 1931, 2,540 second-feet July 18 (gage height, 7.88 feet); minimum, 3.7 second-feet Nov. 2.

Maximum discharge during year ending Sept. 30, 1932, 2,720 second-feet May 13 (gage height, 8.24 feet); minimum, 4.4 second-feet Sept. 11 (gage height, 0.75 foot).

Maximum discharge during year ending Sept. 30, 1933, 3,120 second-feet Aug. 23 (gage height, 9.2 feet); minimum, 6 second-feet Oct. 3 (gage height, 0.77 foot).

REMARKS.- Records good except those above 25 second-feet and those subsequent to May 31, 1933, which are fair. Discharge estimated for periods of ice effect, Dec. 17-25, 30, 31, 1930, Jan. 1, 2, 9-18, 21-25, Feb. 2, 3, 15, 16, 1931, Mar. 9-17, 1932, Feb. 10, 1933. Records furnished by United States Geological Survey, Washington, D. C.

Daily and monthly discharge, in second-feet, 1929-30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										12	6.0	4.4
2										10	5.5	5.5
3										11	5.0	5.5
4									26	10	5.0	5.5
5									26	9.5	4.9	4.4
6									25	9.5	4.9	4.4
7									25	9.5	4.7	4.9
8									25	11	3.0	4.7
9									26	12	3.9	4.1
10									30	12	5.0	4.1
11									30	10	4.9	4.9
12									30	9.5	4.7	3.5
13									26	8	4.9	4.9
14									23	10	4.4	5.0
15									21	8.5	6.0	4.9
16									20	7.5	6.5	5.5
17									22	7.5	7.5	7.5
18									26	7.5	7.5	7.0
19									33	7.5	6.5	6.0
20									35	6.5	6.0	5.5
21									26	6.5	5.5	5.5
22									20	6.5	5.0	4.7
23									13	6.5	6.0	4.7
24									13	6.0	6.0	4.7
25									18	7.5	5.5	6.0
26									18	7.5	4.9	6.5
27									20	7.5	4.7	4.9
28									13	7.5	4.4	5.5
29									12	7.5	4.4	5.5
30									14	7.0	5.5	5.5
31										6.5	5.5	
Month					Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....												
November.....												
December.....												
January.....												
February.....												
March.....												
April.....												
May.....					35	12	23.4	0.148	0.15			
June... 4-30 .....					12	6	8.66	.054	.06			
July.....					7.5	3.0	5.30	.033	.04			
August.....					7.5	3.5	5.19	.033	.04			
September.....												
The year.....												



## POTOMAC BASIN

Licking Creek near Sylvan  
(Continued)

Daily and monthly discharge, in second-feet, 1930-31

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.0	4.9	6.0	11	18	430	495	125	206	29	58	24
2	5.0	3.9	5.5	11	10	125	1,620	111	167	46	54	26
3	5.5	4.7	5.5	12	10	104	675	125	125	72	50	36
4	4.9	4.4	4.9	13	9.5	54	637	111	104	79	48	36
5	5.5	7.5	4.9	13	9.5	60	314	92	98	104	43	30
6	5.5	6.0	9.5	46	9.5	50	239	84	92	133	40	27
7	4.1	6.0	16	64	11	43	217	80	98	196	35	23
8	5.5	5.0	15	60	15	58	196	875	167	104	34	21
9	6.0	4.7	29	}	22	176	158	795	104	314	37	19
10	5.5	6.0	25		38	141	133	430	81	529	92	18
11	6.0	6.0	17		36	98	111	314	70	1,140	141	15
12	5.5	6.0	16	}	47	76	98	251	62	288	69	17
13	6.0	7.0	14		36	44	86	369	56	176	53	15
14	4.4	7.5	12		32	50	82	529	51	125	43	14
15	4.4	6.0	11		45	50	76	462	369	125	38	14
16	4.4	6.0	8.5	}	60	52	67	495	118	125	30	14
17	5.0	6.0	43		53	65	355	92	263	30	13	
18	5.0	4.9	56		64	276	66	1,570	27	16		
19	4.9	6.0	21		62	60	217	54	369	28	26	
20	5.0	5.5	21	66	54	314	43	206	28	23		
21	4.9	4.9	6.0	}	104	67	51	755	40	462	30	18
22	5.0	5.5	80		64	74	534	36	715	51	16	
23	5.5	5.5	56		65	529	1,820	38	369	41	13	
24	6.0	6.0	51		64	263	960	58	239	35	15	
25	6.0	5.5	43	58	276	529	54	176	41	20		
26	7.0	4.9	10	18	38	60	239	399	41	133	30	32
27	7.0	4.4	31	20	34	56	288	301	58	104	41	44
28	7.0	4.4	37	28	36	71	206	228	65	86	76	42
29	8.0	4.4	25	34	34	1,820	186	176	54	80	44	23
30	7.5	4.4	20	32	32	675	158	150	35	85	35	19
31	6.5		15	29	29	369		462		64	32	
Month						Maximum	Minimum	Mean	Per square mile	Run-off in inches		
October						8.0	4.1	5.63	0.036	0.04		
November						7.5	3.9	5.46	.035	.04		
December							4.9	12.6	.090	.09		
January						64	11	21.7	.137	.16		
February						104	9.5	38.7	.245	.26		
March						1,820	43	168	1.06	1.22		
April						1,620	51	257	1.63	1.82		
May						1,820	80	411	2.60	3.00		
June						369	35	90.1	.570	.64		
July						1,570	29	274	1.73	1.99		
August						141	27	45.6	.289	.33		
September						44	13	22.3	.141	.16		
The year						1,920	3.9	114	722	9.75		

## POTOMAC BASIN

Licking Creek near Sylvan  
(Continued)

Daily and monthly discharge, in second-feet, 1931-32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	21	17	30	141	52	1,670	251	64	31	11	7.0
2	14	17	18	239	141	40	960	399	60	29	10	7.5
3	13	17	23	301	111	40	675	196	60	26	11	6.0
4	12	14	18	167	158	36	462	167	72	36	14	6.0
5	10	14	17	111	795	118	355	150	56	31	12	7.5
6	12	15	15	111	399	133	301	133	50	26	11	7.5
7	12	13	14	288	263	328	251	118	46	33	12	9.5
8	12	11	15	206	186	167	217	111	44	35	8.5	10
9	11	11	20	167	158	130	196	141	40	27	8.5	6.0
10	11	13	25	141	118	125	529	288	38	25	7.5	5.5
11	11	14	36	104	111	120	529	875	36	21	9.5	4.9
12	9.5	14	98	92	104	90	529	1,280	39	19	10	6.0
13	10	13	85	86	92	80	430	2,600	46	17	7.5	6.0
14	10	13	70	92	76	75	355	1,420	58	17	6.5	6.5
15	11	13	71	76	70	65	288	875	52	15	6.0	5.5
16	12	13	51	69	62	55	239	564	46	16	8.0	7.5
17	11	12	37	60	70	90	196	430	62	17	7.5	6.5
18	11	14	33	56	70	288	176	328	46	15	9.5	8.0
19	10	13	28	52	70	217	158	251	48	13	19	6.5
20	13	13	27	46	58	141	141	217	44	12	42	6.0
21	13	14	25	44	54	186	133	186	40	18	9.5	6.5
22	12	14	23	41	49	251	118	158	41	33	7.5	7.5
23	13	14	23	47	48	637	111	141	40	30	7.5	7.0
24	12	14	25	66	46	564	98	118	29	18	9.5	7.0
25	10	15	24	80	40	430	98	111	25	15	7.5	6.5
26	10	13	20	58	43	314	98	133	23	15	6.5	7.0
27	10	13	23	60	43	276	92	98	217	11	7.0	7.0
28	11	14	21	84	41	1,230	78	92	62	16	6.5	7.5
29	16	15	18	66	60	875	72	66	54	14	6.5	6.5
30	18	15	17	111		1,190	65	75	38	13	7.5	6.5
31	18		20	196		2,040		68		12	11	
Month						Maximum	Minimum	Mean	Per square mile		Run-off in inches	
October.....						18	9.5	12.0	0.078		0.09	
November.....						21	11	14.0	.089		.10	
December.....						98	14	30.9	.196		.23	
January.....						301	30	108	.684		.79	
February.....						795	40	127	.804		.97	
March.....						2,040	36	335	2.12		2.44	
April.....						1,670	65	320	2.03		2.26	
May.....						2,600	68	389	2.46		2.84	
June.....						217	23	52.7	.334		.37	
July.....						36	11	21.2	.134		.15	
August.....						42	6.0	10.2	.065		.07	
September.....						10	4.9	6.76	.043		.05	
The year.....						2,600	4.9	199	.753		10.28	



## POTOMAC BASIN

Licking Creek near Sylvan  
(Continued)

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.0	98	98	206	206	125	251	159	176	22	21	53
2	7.0	276	98	141	196	118	288	206	141	27	20	52
3	6.5	176	98	141	158	111	263	314	118	104	17	46
4	6.5	125	86	158	133	104	263	399	111	98	16	74
5	14	98	86	150	125	92	228	276	104	44	16	133
6	43	86	79	125	104	86	217	301	92	31	22	86
7	52	81	72	111	111	92	1,100	495	81	27	17	66
8	40	79	69	98	167	369	915	637	86	26	15	52
9	22	105	84	92	111	301	564	1,470	98	37	15	58
10	16	2,350	62	104	110	239	430	1,720	70	21	16	43
11	14	1,050	54	98	111	150	341	1,230	76	20	18	41
12	11	467	48	98	125	176	1,000	835	60	20	34	42
13	10	355	64	92	113	200	960	637	60	18	23	54
14	9.5	167	67	80	111	2,420	637	529	47	18	20	45
15	9.5	206	56	92	118	1,400	462	399	44	18	16	150
16	10	158	47	80	118	915	415	369	44	19	14	462
17	42	167	52	84	111	637	1,930	341	51	18	13	251
18	795	150	54	85	125	495	1,570	263	49	17	13	141
19	637	1,240	52	87	150	795	960	217	44	17	13	98
20	355	1,570	62	82	263	1,420	1,100	196	38	17	18	86
21	167	875	60	78	399	1,520	1,180	176	36	15	18	70
22	118	430	60	80	314	1,000	875	150	31	24	15	54
23	92	301	58	92	263	715	600	133	30	30	1,320	48
24	76	251	73	86	206	529	430	118	30	22	1,670	44
25	67	206	118	82	176	430	399	141	28	62	675	41
26	58	196	263	1,350	196	369	341	125	30	43	196	56
27	104	158	141	1,020	158	328	276	328	30	34	125	34
28	196	104	369	715	141	328	228	251	27	27	167	34
29	141	111	369	369	263	196	196	26	23	23	92	34
30	104	118	301	301	228	176	176	24	24	20	74	29
31	81	276	276	239	217	217	276			18	58	
Month	Maximum		Minimum		Mean		Per square mile		Run-off in inches			
October.....	795		6.5		107		0.677		0.78			
November.....	2,350		79		392		2.48		2.77			
December.....	369		47		111		.703		.81			
January.....	1,350		78		213		1.35		1.56			
February.....	399		104		165		1.04		1.08			
March.....	2,420		86		522		3.30		3.80			
April.....	1,930		176		620		3.92		4.37			
May.....	1,720		118		421		2.66		3.07			
June.....	176		24		62.7		.397		.44			
July.....	104		15		30.2		.191		.22			
August.....	1,670		13		154		.975		1.12			
September.....	462		29		81.9		.518		.58			
The year.....	2,420		6.5		240		1.52		20.60			

## OHIO BASIN



## Allegheny River at Larabee

LOCATION.- Chain gage at bridge on U. S. Highway No. 6 at Larabee, McKean County, 1-1/2 miles below mouth of Potato Creek, and 3-1/2 miles south of Eldred.

DRAINAGE AREA.- 541 square miles. (revised)

RECORDS AVAILABLE.- June 1915 to September 1933.

EXTREMES.- Maximum discharge during year, 3,840 second-feet Mar. 16 (gage height, 11.24 feet); minimum, 14 second-feet Sept. 14 (gage height, 0.36 foot).

1915-33: Maximum discharge, about 9,100 second-feet Nov. 18, 1927 (gage height, 17.6 feet from graph based on gage readings); minimum, about 5 second-feet Sept. 6, 7, 25, 1932 (gage height, 0.28 foot).

REMARKS.- Records fair except those estimated for periods of ice effect, Dec. 11-22, Jan. 14, 15, Feb. 4-24, and for periods of missing gage-height record, Oct. 19-21, Nov. 4-6, which are poor. Cost of all equipment, maintenance, and operation after June 30, 1932, paid by United States Engineer Office, Pittsburgh, Pa.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42	291	470	1,070	584	632	1,700	427	1,380	177	82	99
2	34	695	427	833	632	632	2,180	1,210	1,310	254	62	91
3	26	515	407	780	680	584	2,360	2,140	1,010	996	100	154
4	18	430	368	755	480	515	2,410	2,260	705	806	782	350
5	34	400	332	730	400	492	2,260	2,180	705	632	561	216
6	144	405	332	680	370	470	2,180	2,360	861	387	377	143
7	424	448	407	584	430	837	2,860	2,560	890	298	127	112
8	157	368	448	538	580	1,780	3,660	2,610	1,450	282	99	104
9	91	1,710	387	492	540	1,820	3,540	2,460	1,190	187	93	88
10	69	3,060	298	470	480	1,380	3,110	2,020	833	187	95	55
11	55	2,610	280	407	460	1,040	2,410	1,780	705	177	225	75
12	51	1,860	260	427	470	1,040	2,310	1,460	584	145	177	53
13	51	1,310	240	427	470	950	2,260	1,250	492	137	112	40
14	53	861	220	400	470	1,720	2,100	1,070	448	116	147	58
15	47	705	215	320	430	3,110	1,860	1,010	350	158	123	262
16	47	680	210	332	400	3,720	1,660	1,160	280	332	104	225
17	47	806	205	350	380	3,480	1,700	2,020	262	187	104	129
18	53	980	200	332	350	2,860	1,700	1,660	262	129	73	102
19	55	1,620	200	350	335	2,460	1,740	1,460	262	114	60	108
20	56	2,580	200	795	330	2,560	1,780	1,340	234	91	51	119
21	56	2,260	210	833	500	2,960	1,660	1,310	187	89	49	131
22	53	1,860	230	980	500	3,110	1,340	890	167	91	64	145
23	51	1,280	755	1,040	520	3,010	1,130	861	145	203	95	139
24	58	1,010	895	890	560	2,610	980	1,600	131	534	410	139
25	60	780	1,250	861	632	1,980	861	2,180	297	234	494	123
26	62	705	1,100	861	656	1,620	780	2,020	584	332	387	91
27	147	538	950	833	656	1,280	656	2,060	448	206	181	84
28	280	538	861	833	632	1,220	608	2,020	262	119	206	91
29	225	538	780	780		1,130	538	2,260	196	99	167	86
30	177	492	755	680		1,130	492	2,060	167	91	106	77
31	106		890	608		1,310		1,700		66	84	
Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches							
October	424	18	91.3	0.189	0.19							
November	3,060	291	1,080	2.00	2.23							
December	1,250	200	477	.882	1.02							
January	1,070	320	654	1.21	1.40							
February	680	330	497	.919	.96							
March	3,720	470	1,720	3.18	3.67							
April	3,660	492	1,830	3.38	3.77							
May	2,610	427	1,720	3.18	3.67							
June	1,450	131	560	1.04	1.16							
July	996	66	253	.468	.54							
August	782	49	187	.346	.40							
September	350	40	123	.227	.25							
The year	3,720	18	767	1.42	19.26							

## Allegheny River at Franklin, Pa.

LOCATION.- Water-stage recorder at Eighth Street Bridge at Franklin, Venango County. Chain gage at same site but with datum 2.00 feet higher used prior to Oct. 1, 1932. Zero of gage is 956.26 feet above mean sea level.

DRAINAGE AREA.- 5,982 square miles (revised).

RECORDS AVAILABLE.- April 1905 to September 1933.

EXTREMES.- Maximum discharge during year, 50,700 second-feet Mar. 16 (gage height, 12.14 feet); minimum, 648 second-feet Aug. 23 (gage height, 1.92 feet).

1905-33: Maximum discharge (estimated), 152,000 second-feet Mar. 26, 1913; maximum gage height, 26.0 feet, present datum, caused by ice jam Feb. 27, 1917; minimum discharge, 335 second-feet Aug. 21, Sept. 14, 1930 (gage height, 1.65 feet, present datum).

Maximum free-flow stage known, 25.0 feet, present datum, Mar. 17, 1865 (discharge not determined).

REMARKS.- Records fair. Discharge estimated for periods of ice effect, Dec. 16-23, Feb. 10-19 and for period of missing gage-height record, Mar. 31 to Apr. 5.

AVERAGE DISCHARGE.- 15 years (1918-33), 9,760 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	760	2,440	3,460	26,700	6,520	13,400	21,800	5,300	11,300	2,290	908	780
2	702	4,530	3,170	23,100	6,520	11,700	26,000	4,960	9,150	2,090	919	770
3	684	6,700	3,170	17,900	6,700	10,600	26,600	5,820	7,620	2,290	990	820
4	675	6,520	3,040	14,400	6,160	8,950	26,600	10,800	6,520	4,040	1,280	1,040
5	740	5,470	3,040	12,400	5,300	7,990	24,000	10,400	7,240	4,960	1,890	2,230
6	954	4,330	3,040	11,500	4,170	7,060	21,300	9,760	10,600	3,860	1,660	2,660
7	1,080	3,730	3,290	9,760	4,110	6,520	20,700	12,400	13,400	2,780	1,630	1,960
8	1,310	3,310	4,170	8,370	8,950	9,350	21,900	13,400	27,100	2,310	1,360	1,490
9	1,170	3,040	5,820	7,430	9,760	17,900	21,300	13,400	33,300	2,020	1,150	1,180
10	1,220	4,430	5,300	6,700	7,240	17,900	19,600	12,900	25,500	1,800	1,060	1,000
11	1,150	14,400	4,010	5,990	5,470	12,900	17,900	12,200	16,400	1,600	1,000	908
12	978	16,400	3,340	5,470	5,130	10,800	24,900	11,000	12,000	1,470	990	831
13	897	12,000	2,730	4,630	4,960	11,300	27,900	9,760	8,760	1,350	990	790
14	842	8,760	2,330	4,080	4,830	28,100	24,900	9,560	6,880	1,280	1,010	853
15	800	6,700	1,780	4,200	4,630	46,600	20,100	8,950	5,820	1,190	1,030	1,220
16	780	5,820	1,660	3,920	4,330	48,600	17,400	8,560	5,130	1,150	942	1,350
17	760	6,700	1,570	4,200	4,010	39,000	19,000	11,500	4,500	1,190	853	1,400
18	800	7,990	1,520	4,040	4,010	29,700	20,100	13,900	3,950	1,280	810	1,240
19	820	11,700	1,570	4,330	4,330	25,500	20,100	12,400	3,490	1,340	800	1,190
20	790	21,700	1,660	6,700	6,700	24,300	21,900	10,200	3,150	1,220	750	1,130
21	750	21,900	1,800	8,760	8,760	26,700	19,600	9,150	2,810	1,210	711	1,040
22	740	16,400	2,020	8,180	8,560	32,100	16,400	9,560	2,520	990	675	1,050
23	740	12,600	3,010	11,500	9,350	29,100	13,400	8,760	2,330	919	657	1,120
24	750	9,560	11,300	13,400	8,950	23,700	11,300	7,620	2,150	919	675	1,320
25	760	7,990	25,500	12,200	11,000	19,600	9,970	11,000	1,980	1,080	693	1,400
26	790	7,240	23,700	10,600	23,100	16,400	8,950	15,900	1,870	1,210	740	1,260
27	1,050	6,160	17,900	10,600	21,300	13,900	7,800	17,400	4,170	1,280	1,030	1,190
28	1,660	4,960	13,400	11,300	16,400	13,900	7,240	20,100	5,130	1,280	1,240	1,240
29	2,570	4,370	10,400	9,970		14,400	6,520	17,900	3,400	1,090	1,040	1,290
30	2,570	3,860	8,560	8,180		15,900	5,990	15,900	2,810	1,040	886	1,210
31	2,370		14,900	7,060		16,400		14,400		942	820	
Month					Maximum	Minimum	Mean		Per square mile		Run-off in inches	
October					2,570	675	1,060		0.176		0.20	
November					21,900	2,440	8,390		1.40		1.56	
December					25,500	1,520	6,200		1.04		1.20	
January					26,700	3,920	9,600		1.60		1.84	
February					23,100	4,010	7,900		1.32		1.38	
March					48,600	6,520	19,700		3.29		3.79	
April					27,900	5,990	18,400		3.08		3.44	
May					20,100	4,960	11,400		1.91		2.20	
June					33,300	1,870	8,370		1.40		1.56	
July					4,960	919	1,720		.288		.33	
August					1,890	657	1,010		.169		.19	
September					2,660	770	1,240		.207		.23	
The year					48,600	657	7,900		1.32		17.92	



Allegheny River at Parkers Landing

LOCATION.- Water-stage recorder at highway bridge at Parkers Landing, Armstrong County, 1.1 miles below mouth of Clarion River. Zero of gage is 845.14 feet above mean sea level.

DRAINAGE AREA.- 7,671 square miles.

RECORDS AVAILABLE.- October 1932 to September 1933.

EXTREMES.- Maximum discharge during year, 68,900 second-feet Mar. 16 (gage height, 13.02 feet); minimum, 793 second-feet Aug. 24 (gage height, 0.91 foot).

Maximum stage known, 29.0 feet in March 1865 (discharge not determined).

REMARKS.- Records fair except those for extremely high stages and those estimated for periods of ice effect, Dec. 17-22, Feb. 11-19, which are poor. Discharge estimated for period of no gage-height record, Aug. 27 to Sept. 3. Regulation at low stages from power operations on Clarion River. Cost of all equipment, maintenance, and operation paid by United States Engineer Office, Pittsburgh, Pa.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	1,240	3,060	4,470	26,400	8,340	17,900	27,700	6,600	14,600	3,180	1,340	962		
2	1,280	3,960	4,360	25,800	8,340	15,300	32,200	6,660	11,600	2,870	1,320	950		
3	932	7,180	4,380	21,600	8,450	13,200	33,600	8,370	10,100	3,220	1,190	1,020		
4	845	7,490	4,190	17,500	8,440	12,000	33,600	13,400	8,480	3,540	1,440	1,190		
5	1,000	6,700	3,800	15,000	7,410	10,400	30,300	13,900	7,650	5,750	2,380	1,660		
6	1,150	5,660	4,020	13,900	4,900	8,940	27,000	14,100	10,900	4,920	2,280	3,180		
7	1,780	4,400	4,140	12,300	4,990	8,300	28,000	16,700	15,000	3,770	1,930	2,760		
8	1,740	4,430	4,190	10,400	8,300	11,500	28,400	17,900	27,700	3,140	1,950	2,160		
9	1,970	4,340	5,620	8,950	11,700	19,500	27,700	19,500	39,100	2,450	1,960	1,740		
10	1,460	5,660	6,280	8,420	8,690	22,200	25,800	19,400	31,600	2,290	1,480	1,440		
11	1,560	13,800	5,410	7,470	7,200	17,500	23,400	16,800	20,300	2,290	1,420	1,260		
12	1,540	19,300	4,240	6,730	6,600	13,700	32,200	16,000	15,000	2,080	1,490	1,350		
13	1,210	14,900	3,800	6,090	6,400	14,100	37,000	15,000	11,700	1,740	1,240	1,220		
14	1,210	10,700	2,970	5,350	6,300	32,600	32,900	13,000	9,450	1,600	1,240	1,110		
15	1,060	8,540	2,610	4,920	6,100	62,000	27,000	12,700	7,810	1,500	1,240	1,230		
16	1,060	7,170	2,200	4,920	5,700	64,500	23,400	12,000	6,840	1,610	1,300	1,910		
17	1,020	7,570	2,100	4,920	5,400	51,500	24,600	12,500	6,280	1,440	1,230	1,680		
18	1,520	8,730	2,000	5,220	5,300	39,100	25,200	16,800	5,440	1,440	1,530	1,700		
19	1,170	13,500	2,000	5,530	5,400	33,600	25,200	16,200	4,610	1,690	1,220	1,620		
20	1,110	23,700	2,080	7,610	8,080	33,300	27,000	13,700	4,310	1,760	985	1,720		
21	1,020	27,000	2,200	10,700	10,900	38,400	24,600	11,700	3,970	1,640	914	1,500		
22	1,170	21,100	2,600	11,300	11,100	44,000	21,000	11,400	3,570	1,300	849	1,420		
23	1,280	16,200	4,140	14,200	12,000	39,800	17,200	11,300	3,300	1,280	811	1,420		
24	1,000	12,200	10,600	17,000	12,400	32,200	14,700	10,100	3,040	1,150	811	1,500		
25	949	10,200	27,100	15,700	14,500	25,800	12,800	13,100	2,900	1,150	936	1,680		
26	1,110	9,340	27,700	13,900	25,900	21,600	11,700	17,800	2,500	1,480	1,190	1,720		
27	1,150	7,840	21,500	13,100	27,000	18,500	10,500	19,700	3,280	1,460	1,320	1,760		
28	1,580	5,780	16,800	14,500	21,600	17,800	9,640	22,200	5,530	1,580	1,600	1,500		
29	2,590	5,500	13,300	12,600		18,500	8,680	22,800	4,800	1,660	1,530	1,540		
30	3,220	4,820	11,800	10,800		19,300	7,830	19,500	3,680	1,320	1,120	1,480		
31	2,920		14,900	9,360		21,000		17,400		1,220	1,020			
Month					Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October					3,220		845		1,410		0.184		0.21	
November					27,000		3,060		10,000		1.30		1.45	
December					27,700		2,000		7,350		.958		1.10	
January					26,400		4,920		11,800		1.54		1.78	
February					27,000		4,900		9,910		1.29		1.34	
March					64,500		8,300		25,700		3.35		3.86	
April					37,000		7,830		23,700		3.09		3.45	
May					22,800		6,600		14,800		1.93		2.22	
June					39,100		2,500		10,200		1.33		1.48	
July					5,760		1,150		2,180		.284		.33	
August					2,580		811		1,350		.176		.20	
September					3,180		950		1,580		.206		.23	
The year					64,500		811		9,970		1.30		17.65	

## Brokenstraw Creek at Youngsville

LOCATION.- Chain gage at highway bridge at Youngsville, Warren County. Zero of gage is 1,188.92 feet above mean sea level.

DRAINAGE AREA.- 304 square miles (revised).

RECORDS AVAILABLE.- October 1909 to September 1933.

EXTREMES.- Maximum discharge during year, 3,840 second-feet Mar. 15 (gage height, 5.1 feet from graph based on gage readings); minimum, 28 second-feet Aug. 22, 31 (gage height, -0.64 foot).

1909-33: Maximum gage height, 12.2 feet Mar. 25, 1913 (discharge not determined); minimum discharge, 27 second-feet at times during September to November 1931 (gage height, -0.65 foot).

REMARKS.- Records fair except those above 3,000 second-feet and those estimated for periods of ice effect, Nov. 27-30, Dec. 14-22, Jan. 14-17, Feb. 6, 7, 11-18, which are poor. Discharge estimated for days of missing gage heights, Oct. 2, 9, Nov. 6, Dec. 11, 25, Jan. 1, 29.

AVERAGE DISCHARGE.- 19 years (1910-15, 1919-33), 557 second-feet.

Daily and monthly discharge, in second-feet, 1932-33.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46	387	128	2,010	196	726	1,690	178	242	80	39	30
2	45	630	115	1,630	271	568	1,690	175	175	98	37	31
3	43	568	132	730	254	452	1,450	224	164	139	52	63
4	43	452	134	509	184	398	1,370	181	164	103	101	175
5	45	321	141	598	159	321	896	175	259	87	67	161
6	45	275	139	480	150	230	827	267	480	73	61	115
7	64	238	181	346	190	296	827	321	631	64	45	87
8	60	193	452	298	710	786	827	298	2,260	64	43	66
9	59	234	424	254	538	793	793	371	1,850	63	49	59
10	51	766	250	275	371	452	661	398	896	60	63	47
11	46	793	242	220	250	346	896	346	371	56	41	48
12	53	630	199	216	180	346	1,450	321	234	53	45	42
13	48	452	115	117	155	488	1,530	275	184	51	45	40
14	46	275	100	110	140	3,180	1,070	275	164	49	40	77
15	46	230	90	100	180	3,660	793	234	150	63	37	70
16	46	227	85	110	140	2,670	661	346	141	69	33	57
17	46	568	85	130	130	1,610	930	793	128	67	34	53
18	46	538	85	166	130	1,530	1,180	598	121	56	34	42
19	46	1,370	85	367	143	1,210	1,370	398	109	54	33	40
20	46	1,610	90	630	424	930	1,370	298	101	51	30	42
21	46	1,180	95	452	371	1,210	896	227	88	51	30	53
22	43	694	100	686	275	1,290	726	199	87	49	29	73
23	46	452	214	1,000	371	930	538	172	87	52	30	76
24	49	321	1,660	811	371	793	424	368	83	54	37	70
25	48	321	1,770	401	1,060	568	321	334	83	57	40	54
26	51	263	1,340	480	1,970	538	298	220	81	56	38	46
27	213	210	696	480	1,290	424	259	456	224	51	37	56
28	259	175	452	424	861	509	227	598	132	47	33	53
29	234	125	298	242		568	213	538	94	46	30	52
30	184	110	470	199		827	193	371	83	43	30	46
31	187		2,400	206		1,210		321		40	29	

Month				Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....				259	43	75.2	0.247	0.26
November.....				1,610	110	487	1.60	1.78
December.....				2,400	85	412	1.36	1.57
January.....				2,010	100	473	1.56	1.80
February.....				1,970	130	408	1.34	1.40
March.....				3,660	230	963	3.17	3.66
April.....				1,690	193	879	2.89	3.22
May.....				793	172	331	1.09	1.26
June.....				2,260	81	329	1.08	1.20
July.....				139	40		62.1	.204
August.....				101	29		41.4	.136
September.....				175	30		64.1	.211
The year.....				3,660	29	376	1.24	16.81



Oil Creek at Rouseville

LOCATION.- Chain gage at highway bridge 1 mile above Rouseville, Venango County, and 1-1/2 miles above former gaging station.

DRAINAGE AREA.- 300 square miles (revised).

RECORDS AVAILABLE.- June 1932 to September 1933.

EXTREMES.- Maximum discharge during year, about 5,430 second-feet Mar. 14 (gage height, 7.2 feet from graph based on gage readings); minimum, 27 second-feet Aug. 29, 31, Sept. 1, 2 (gage height, 1.82 feet).

1932-33: Maximum discharge, that of Mar. 14, 1933; minimum, 26 second-feet Sept. 12, 13, 1932 (gage height, 1.80 feet).

REMARKS.- Records fair except those for high stages and those estimated for periods of ice effect, Nov. 28-30, Dec. 12-24, Jan. 14-17, Feb. 5-7, 10-19, which are poor. Records include discharge of Cherrytree Run. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	39	166	122	1,570	213	628	1,710	264	289	78	60	27
2	36	399	127	660	306	475	1,490	257	230	87	52	27
3	35	245	132	475	268	420	1,490	323	203	137	73	52
4	34	197	158	420	194	370	1,240	346	200	102	226	114
5	49	156	158	535	160	323	950	272	825	85	84	155
6	111	161	158	420	155	257	800	319	1,150	71	56	76
7	98	147	167	346	240	293	990	420	711	72	52	54
8	74	134	323	289	1,080	875	912	370	4,290	67	50	44
9	58	130	241	257	650	912	730	395	2,520	64	61	39
10	46	554	187	249	360	505	660	420	875	61	58	35
11	49	522	158	224	260	448	646	370	535	55	54	34
12	49	395	145	206	210	420	2,020	319	395	54	49	34
13	54	260	135	144	300	483	1,420	314	314	54	48	34
14	56	200	130	130	190	4,320	950	346	264	50	46	78
15	52	184	125	130	195	4,350	730	302	227	49	42	190
16	49	187	120	133	175	1,940	765	346	213	64	40	87
17	45	564	115	150	175	1,240	1,070	838	190	90	37	58
18	60	420	115	175	175	912	1,160	505	161	69	39	49
19	64	1,060	115	260	180	912	950	370	153	58	35	41
20	60	1,520	120	475	323	1,160	1,070	319	144	50	32	48
21	49	660	130	297	595	1,710	800	284	132	48	30	54
22	44	420	180	396	268	1,490	660	238	124	45	30	76
23	46	323	270	865	420	990	565	206	115	42	29	89
24	46	268	1,100	475	370	800	475	267	107	62	35	96
25	49	253	1,160	370	1,130	695	448	475	100	61	40	72
26	48	224	628	370	2,420	628	420	346	98	55	39	60
27	155	164	395	420	933	505	370	862	98	55	34	55
28	187	150	346	346	695	695	346	628	94	48	30	58
29	109	135	260	284	210	628	310	475	89	44	28	55
30	96	130	397	210	210	1,030	289	448	83	45	29	49
31	85		2,270	224		1,240		370		42	28	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October					187	34	65.6	0.219		0.25		
November					1,520	130	344	1.15		1.28		
December					2,270	115	325	1.08		1.24		
January					1,570	130	371	1.24		1.43		
February					2,420	155	448	1.49		1.55		
March					4,350	257	1,020	3.40		3.92		
April					2,020	289	881	2.94		3.25		
May					862	206	388	1.29		1.49		
June					4,290	83	499	1.66		1.85		
July					137	42	63.4	.211		.24		
August					226	28	49.9	.166		.19		
September					190	27	64.7	.216		.24		
The year					4,350	27	375	1.25		16.96		

French Creek at Carters Corners (Kimmeytown)

LOCATION.- Chain gage at highway bridge at Carters Corners (formerly called Kimmeytown), Erie County, 4 miles northwest of Union City, and 5 miles upstream from mouth of South Branch of French Creek. Zero of gage is 1,235.7 feet above mean sea level.

DRAINAGE AREA.- 208 square miles (revised).

RECORDS AVAILABLE.- May 1910 to September 1933.

EXTREMES.- Maximum discharge during year, 4,470 second-feet Dec. 31 (gage height, 7.7 feet); minimum, 15 second-feet Aug. 19, 21, 23 (gage height, 0.57 foot).

1910-33: Maximum discharge (estimated), 9,940 second-feet Mar. 25, 1913; maximum gage height, about 15.2 feet Mar. 12, 1920 (caused by ice jam); minimum discharge not determined.

REMARKS.- Records fair except those estimated for periods of ice effect, Dec. 10-22, Jan. 13-17, Feb. 6-20, Mar. 5-7, 11, 12, which are poor.

AVERAGE DISCHARGE.- 17 years (1910-16, 1919-29, 1932-33), 424 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	469	122	2,170	196	495	1,320	127	92	48	20	16
2	22	715	122	980	315	401	1,140	120	81	44	19	17
3	22	700	134	598	283	366	1,100	170	79	66	28	60
4	21	575	165	535	196	331	880	168	72	66	41	269
5	22	401	183	679	150	240	658	165	170	51	32	170
6	37	383	192	495	140	230	495	158	253	39	29	85
7	56	299	432	401	200	250	616	160	458	32	28	53
8	48	238	644	348	600	880	616	160	1,420	31	23	37
9	37	229	495	283	400	788	476	210	834	28	23	30
10	30	655	320	253	250	383	495	268	401	30	23	25
11	29	729	260	258	190	330	496	268	196	26	27	23
12	29	535	220	238	175	350	1,010	210	138	28	29	24
13	32	383	160	160	170	432	880	183	100	22	24	21
14	38	268	130	145	180	2,520	535	210	87	21	23	23
15	35	299	110	140	220	2,790	383	183	72	21	22	25
16	30	283	105	145	240	1,250	419	293	77	21	20	23
17	29	348	105	160	230	788	535	715	72	25	19	23
18	32	378	105	196	220	575	616	529	63	22	16	17
19	29	842	105	401	240	495	799	283	55	21	15	20
20	28	930	110	535	350	495	965	196	48	21	18	23
21	30	616	140	366	575	535	576	165	44	22	15	39
22	28	437	260	487	476	575	383	145	40	21	17	132
23	28	315	861	1,280	437	437	283	118	39	21	16	120
24	29	349	3,260	869	425	383	253	113	40	29	19	77
25	29	401	2,500	535	1,040	348	224	111	35	29	23	58
26	41	401	1,020	535	1,450	299	210	100	39	23	27	40
27	238	299	576	575	819	283	196	253	35	21	24	53
28	315	210	383	437	603	419	170	183	35	21	23	94
29	315	158	299	299		432	160	158	37	16	20	94
30	268	140	384	238		744	150	148	47	16	18	56
31	253		3,430	210		1,180		118		16	16	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					315	21	71.1	0.342		0.39		
November.....					930	140	433	2.08		2.32		
December.....					3,430	105	553	2.66		3.07		
January.....					2,170	140	482	2.32		2.68		
February.....					1,450	140	385	1.85		1.93		
March.....					2,790	230	646	3.11		3.58		
April.....					1,320	150	568	2.73		3.05		
May.....					715	100	206	.990		1.14		
June.....					1,420	35	172	.827		.92		
July.....					66	16	29.0	.139		.16		
August.....					41	15	22.5	.108		.12		
September.....					269	16	58.2	.280		.31		
The year.....					3,430	15	301	1.45		19.67		



## French Creek at Saegertown

LOCATION.- Chain gage at highway bridge at Saegertown, Crawford County, half a mile above mouth of Woodcock Creek.

DRAINAGE AREA.- 629 square miles (revised).

RECORDS AVAILABLE.- April 1921 to September 1933.

EXTREMES.- Maximum discharge during year, 7,070 second-feet Mar. 15 (gage height, 9.36 feet); minimum, 40 second-feet July 28 (gage height, 2.22 feet).

1921-33: Maximum discharge, about 17,000 second-feet Jan. 20, 1929 (gage height, 15.9 feet from graph based on gage readings); minimum, 26 second-feet Aug. 20, 22, 1930 (gage height, 2.16 feet).

REMARKS.- Records good except those for low stages, which are fair, and those estimated for periods of ice effect, Dec. 15-23, Jan. 14-17, Feb. 11-16, which are poor. Regulation at low stages from power operations upstream.

AVERAGE DISCHARGE.- 12 years (1921-33), 1,060 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	133	503	353	6,340	565	1,470	3,590	414	308	116	52	49
2	141	1,080	311	5,240	668	1,150	3,470	403	266	120	52	50
3	92	1,230	301	2,460	768	1,010	3,470	473	219	137	56	71
4	126	1,160	322	1,470	565	940	3,020	503	214	110	103	294
5	133	940	375	1,820	438	836	2,290	479	701	123	103	590
6	144	768	403	1,640	370	734	1,730	479	1,230	113	95	348
7	144	701	636	1,230	461	701	2,090	497	836	120	84	214
8	197	565	1,230	1,010	1,550	1,940	1,910	491	3,590	97	76	152
9	126	510	1,230	870	1,390	2,800	1,550	565	4,140	89	76	120
10	126	870	905	768	801	1,650	1,310	701	2,120	81	69	100
11	103	1,550	701	668	680	1,010	1,230	701	940	86	69	92
12	86	1,390	636	636	660	1,080	3,010	603	668	78	67	89
13	97	1,080	553	485	650	1,430	3,130	540	461	71	65	78
14	100	768	403	420	660	5,340	2,000	497	359	71	73	78
15	95	636	310	410	680	6,920	1,390	497	291	62	65	89
16	89	636	280	420	720	6,280	1,390	522	238	62	62	95
17	84	734	260	440	668	3,440	1,820	1,310	238	60	69	92
18	86	870	260	479	603	1,910	1,730	1,390	210	62	60	89
19	84	1,230	260	668	668	1,640	1,910	1,010	197	60	56	81
20	89	2,590	265	1,230	1,150	1,820	2,390	668	171	60	49	81
21	84	1,910	280	1,010	1,640	1,910	2,000	503	163	58	49	86
22	76	1,310	360	1,010	1,150	2,090	1,390	420	144	56	46	100
23	69	1,010	700	2,000	1,230	1,550	1,010	364	133	52	43	160
24	76	836	3,050	2,090	1,150	1,310	870	338	120	54	44	219
25	84	870	5,290	1,470	1,930	1,150	734	386	120	60	44	175
26	97	801	4,220	1,310	4,310	1,010	668	364	120	62	46	160
27	233	701	2,060	1,390	3,090	905	590	409	120	43	48	167
28	584	522	1,310	1,230	1,910	1,230	540	565	113	43	46	171
29	522	420	1,010	940		1,550	491	450	291	46	48	180
30	497	386	940	701		2,290	432	403	128	44	50	192
31	420	4,560	597			2,690		359		46	52	
Month	Maximum		Minimum		Mean		Per square mile		Run-off in inches			
October	584		69		162		0.258		0.30			
November	2,590		386		952		1.51		1.68			
December	5,290		260		1,090		1.73		1.99			
January	6,340		410		1,370		2.18		2.51			
February	4,310		370		1,110		1.76		1.83			
March	6,920		701		1,990		3.16		3.64			
April	3,590		432		1,770		2.81		3.14			
May	1,390		338		558		.887		1.02			
June	4,140		113		628		.998		1.11			
July	137		43		75.5		.120		.14			
August	103		43		61.8		.098		.11			
September	590		49		149		.237		.26			
The year	6,920		43		824		1.31		17.73			

## French Creek at Utica

LOCATION.- Chain gage at highway bridge at Utica, Venango County. Zero of gage is 1,019.54 feet above mean sea level.

DRAINAGE AREA.- 1,028 square miles (revised).

RECORDS AVAILABLE.- August 1932 to September 1933.

EXTREMES.- Maximum discharge during year, about 9,790 second-feet Mar. 16 (gage height, 8.6 feet from graph based on gage readings); minimum, 45 second-feet Sept. 1 (gage height, 1.09 feet).

1932-33: Maximum discharge, that of Mar. 16, 1933; minimum, that of Sept. 1, 1933.

Maximum stage known, about 15.7 feet during flood of March 1913 (discharge not determined).

REMARKS.- Records good except those estimated for periods of ice effect, Dec. 15-23, Jan. 12-18, which are fair. Discharge estimated for period of missing gage height record, June 30 to July 1. Cost of all equipment, maintenance, and operation paid by United States Engineer Office, Pittsburgh, Pa.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	118	571	434	6,740	900	2,480	4,880	664	542	220	64	45
2	116	729	408	6,740	1,020	2,220	5,420	632	408	215	69	49
3	110	1,230	384	4,700	1,100	2,760	4,170	696	360	221	73	52
4	107	1,230	360	2,760	975	2,220	4,170	762	338	208	120	99
5	130	1,100	408	2,480	602	1,520	5,790	762	399	201	160	338
6	166	900	334	2,480	459	1,060	3,050	762	953	183	144	459
7	174	762	542	1,970	830	1,230	3,510	796	1,170	163	134	384
8	177	696	975	1,520	2,090	2,220	3,350	796	2,020	149	139	243
9	195	696	1,520	1,140	1,970	3,350	2,900	865	4,530	134	130	171
10	177	696	1,320	1,100	1,740	3,200	2,480	900	3,270	120	95	112
11	168	1,020	796	975	1,420	2,350	2,350	1,020	1,680	116	91	122
12	144	1,140	696	760	1,230	1,740	4,700	975	993	110	88	112
13	120	1,320	542	640	1,060	2,190	3,830	865	696	101	82	103
14	125	1,020	384	580	975	7,200	4,170	796	542	95	73	107
15	130	762	340	560	938	9,020	2,900	729	434	95	71	118
16	125	696	330	560	1,020	9,510	2,480	729	384	99	67	101
17	125	696	330	570	975	7,400	2,760	1,020	360	99	67	107
18	139	900	330	590	938	5,250	3,050	1,320	315	91	66	103
19	130	1,320	335	762	975	3,460	3,050	1,420	294	88	66	99
20	130	1,630	340	1,320	1,320	3,350	4,000	1,020	486	84	64	130
21	130	2,760	370	1,420	2,480	3,670	3,670	762	602	82	62	127
22	112	2,090	480	1,320	2,090	3,670	2,620	664	542	93	64	134
23	120	1,320	770	1,740	1,970	3,050	1,850	542	189	88	66	137
24	110	1,180	2,460	2,760	1,740	2,480	1,520	542	180	84	64	189
25	99	1,100	5,610	1,740	2,620	2,090	1,420	602	177	95	64	258
26	118	1,020	5,380	1,970	3,830	1,850	1,180	632	171	103	52	208
27	235	938	3,470	2,090	4,880	1,520	1,020	729	180	88	48	189
28	360	632	2,060	1,970	3,350	1,850	900	796	174	80	48	192
29	571	542	1,420	2,090		2,220	865	729	189	60	49	195
30	513	486	1,520	1,740		3,350	729	632	330	64	49	201
31	459		3,350	1,020		3,830		571		64	48	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					571	99	182	0.177		0.20		
November.....					2,760	486	1,040	1.01		1.13		
December.....					5,610	330	1,230	1.20		1.38		
January.....					6,740	560	1,900	1.85		2.13		
February.....					4,880	459	1,620	1.58		1.64		
March.....					9,510	1,060	3,330	3.24		3.74		
April.....					5,790	729	2,960	2.88		3.21		
May.....					1,420	542	798	.776		.89		
June.....					4,530	171	764	.743		.83		
July.....					221	60	119	.116		.13		
August.....					160	48	79.9	.078		.09		
September.....					459	45	163	.159		.18		
The year.....					9,510	45	1,180	1.15		15.55		



## Cussewago Creek near Meadville

LOCATION.- Chain gage at highway bridge 4 miles northwest of Meadville, Crawford County.  
Zero of gage is 1,071.77 feet above mean sea level.

DRAINAGE AREA.- 90.2 square miles (revised).

RECORDS AVAILABLE.- May 1910 to September 1933.

EXTREMES.- Maximum discharge during year, about 1,500 second-feet Jan. 1 (gage height, 10.5 feet); minimum discharge, 0.7 second-foot Oct. 13; minimum gage height, 0.3 foot Aug. 23, 24.

1910-33: Maximum gage height, 16.00 feet Mar. 25, 1913 (discharge not determined); minimum discharge, 0.3 second-foot Sept. 25, 26, 1932.

REMARKS.- Records poor. Discharge estimated for period of ice effect, Dec. 13-23. Slight regulation at low stages from power operations upstream.

AVERAGE DISCHARGE.- 23 years (1910-33), 130 second-feet.

Daily and monthly discharge, in second-feet, 1932-33.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.6	16	16	1,190	63	167	424	30	24	1.7	1.3	1.1
2	3.0	28	16	756	79	97	411	29	17	1.7	1.7	1.1
3	2.1	50	16	526	102	79	398	36	14	2.0	2.4	1.6
4	1.1	47	19	247	79	79	411	47	12	1.9	6.2	3.3
5	1.2	40	24	203	63	79	385	47	10	1.9	7.8	4.7
6	1.3	32	26	233	59	67	258	47	59	1.8	4.1	2.9
7	1.1	24	37	175	83	63	276	50	92	1.7	2.4	2.8
8	1.1	24	122	117	210	157	296	50	67	1.7	2.3	2.5
9	1.0	22	169	83	286	296	233	56	112	1.4	1.9	2.2
10	1.0	38	120	71	349	398	145	79	64	1.4	1.6	1.8
11	.8	75	97	63	232	267	138	79	32	1.4	1.6	1.5
12	.8	87	63	56	120	154	390	63	17	1.3	1.4	1.4
13	.7	75	50	52	79	140	730	52	12	1.2	1.3	1.3
14	1.0	62	30	47	67	664	600	45	8.9	1.2	1.3	1.3
15	1.0	38	26	38	79	1,050	273	36	7.0	1.2	1.2	1.4
16	1.1	34	23	34	97	800	182	42	6.3	1.2	1.1	1.6
17	1.0	59	21	36	92	561	268	90	5.6	1.2	1.1	1.9
18	1.1	83	20	44	83	279	306	157	4.8	1.2	1.1	1.7
19	1.6	112	20	75	107	175	276	91	4.2	1.1	1.0	1.6
20	1.2	175	20	127	189	217	338	50	3.7	1.1	1.0	2.0
21	1.0	217	21	127	296	296	387	34	3.4	1.0	1.0	2.4
22	1.2	145	22	122	398	306	209	26	2.8	1.1	.8	3.0
23	1.3	87	30	203	258	217	102	19	2.5	1.1	.8	4.0
24	1.1	62	196	258	169	157	79	18	2.4	1.2	.9	4.2
25	1.5	63	452	189	210	112	63	21	2.4	1.3	1.0	3.6
26	2.7	79	580	133	395	107	56	26	2.2	1.4	1.1	3.4
27	12	63	454	182	543	97	52	28	2.4	1.4	1.3	3.4
28	23	40	174	225	439	133	47	42	2.4	1.3	1.3	5.4
29	30	30	75	169		217	40	47	2.2	1.2	1.3	8.2
30	23	21	59	97		327	35	35	1.9	1.2	1.2	7.7
31	14	369	71	411			29	29		1.2	1.2	
Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches							
October	30	0.7	4.44	0.049	0.06							
November	217	16	64.0	.710	.79							
December	580	16	109	1.21	1.40							
January	1,190	34	192	2.13	2.46							
February	543	59	186	2.06	2.14							
March	1,050	63	264	2.93	3.38							
April	730	35	260	2.88	3.21							
May	157	18	48.4	.537	.62							
June	112	1.9	19.9	.221	.25							
July	2.0	1.0	1.38	.015	.02							
August	7.8	.8	1.80	.020	.02							
September	8.2	1.1	2.83	.031	.03							
The year	1,190	.7	95.4	1.06	14.38							

## Clarion River near Piney

LOCATION.- At hydroelectric plant of the Pennsylvania Electric Co. 2½ miles upstream from Piney, Clarion County, and 3 miles southwest of Clarion.

DRAINAGE AREA.- 951 square miles (revised).

RECORDS AVAILABLE.- October 1924 to September 1933.

REMARKS.- Discharge computed from power house records corrected for changes in storage. The record is furnished by the Clarion River Power Co.

Daily and monthly discharge, in second-feet, 1932-33.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	288	466	659	1,060	1,170	2,330	5,500	868	1,050	306	263	134
2	62	1,260	952	1,220	1,110	2,000	3,950	1,650	1,220	253	62	62
3	62	922	641	1,610	1,210	1,730	4,240	3,270	1,580	546	62	62
4	120	760	290	1,520	1,840	2,170	4,060	3,640	2,060	810	880	62
5	62	772	689	1,530	180	683	3,630	2,840	1,070	457	62	418
6	333	62	722	1,780	620	1,200	3,760	3,880	1,410	262	62	62
7	503	693	542	1,290	713	1,280	5,570	3,600	2,120	308	62	62
8	871	840	492	512	1,540	2,540	5,620	4,760	4,820	250	233	62
9	62	404	629	1,240	1,440	3,060	5,230	4,850	3,720	62	62	62
10	62	2,370	686	814	1,050	2,180	4,330	4,380	2,920	307	62	62
11	216	3,290	62	794	831	1,780	4,020	3,690	527	303	333	282
12	62	2,180	631	948	707	1,440	6,130	3,270	1,320	84	62	240
13	62	802	304	823	1,020	2,150	6,380	3,680	1,260	62	62	62
14	62	975	259	555	1,580	3,600	5,080	1,840	1,020	62	62	62
15	62	922	290	394	975	10,000	4,770	2,450	951	284	102	450
16	62	1,030	300	588	1,220	8,550	3,230	2,350	975	62	62	62
17	268	813	330	693	1,150	6,440	3,710	2,080	890	62	350	62
18	276	1,030	330	680	1,520	5,580	4,100	2,390	206	239	362	62
19	62	3,710	304	1,310	448	4,930	3,560	2,320	572	233	62	239
20	62	4,500	274	1,900	1,300	5,570	3,100	2,310	567	343	62	62
21	189	3,650	304	1,940	1,850	7,410	2,870	657	495	62	62	62
22	276	2,850	457	1,540	1,380	8,060	2,550	1,850	442	172	87	62
23	62	2,310	415	2,770	1,660	6,060	1,540	1,170	519	62	62	62
24	62	717	4,310	2,830	1,570	5,280	1,700	1,200	476	62	124	62
25	195	2,120	4,470	2,060	2,930	4,170	1,580	1,720	62	253	371	62
26	105	1,260	2,180	2,100	3,380	3,080	1,440	1,740	533	62	139	288
27	204	258	1,900	2,270	3,080	2,590	1,610	2,090	443	62	62	62
28	318	730	1,610	2,620	2,500	2,510	1,280	1,250	418	263	62	62
29	379	398	1,680	811		2,820	1,600	3,190	276	62	328	62
30	60	722	2,520	1,430		2,450	368	1,060	220	62	62	865
31	132		2,540	1,310		3,640		1,860		71	140	
Month	Observed			Corrected for Storage								
	Maximum	Minimum	Mean	Maximum	Minimum	Mean	Mean	Per square mile	Run-off in inches			
October	871	60	181				184	0.193	0.22			
November	4,500	62	1,430				1,420	1.49	1.66			
December	4,470	62	1,020				967	1.02	1.18			
January	2,830	394	1,380				1,440	1.51	1.74			
February	3,380	180	1,430				1,420	1.49	1.55			
March	10,000	683	3,780				3,780	3.97	4.58			
April	6,380	368	3,550				3,570	3.75	4.18			
May	4,850	657	2,510				2,500	2.63	3.03			
June	4,820	62	1,140				1,160	1.22	1.36			
July	810	62	209				209	.220	.25			
August	880	62	157				148	.156	.18			
September	865	62	143				123	.129	.14			
The year	10,000	60	1,410				1,410	1.48	20.07			



## Redbank Creek at Saint Charles

LOCATION.- Chain gage at industrial railroad bridge at Saint Charles, Clarion County. Zero of gage is 976.24 feet above mean sea level.

DRAINAGE AREA.- 528 square miles (revised).

RECORDS AVAILABLE.- October 1909 to September 1933.

EXTREMES.- Maximum discharge during year, about 13,000 second-feet Mar. 15 (gage height, 9.3 feet from graph based on gage readings); minimum, 32 second-feet Sept. 13 (gage height, 0.88 foot).

1909-33: Maximum discharge, about 21,000 second-feet Dec. 14, 1927; maximum gage height, 14.0 feet Mar. 12, 1920 (affected by ice); minimum discharge, 10 second-feet Aug. 9, 1910 (gage height, 0.71 foot).

REMARKS.- Records fair except those estimated for periods of ice effect, Dec. 14-24, Feb. 9-19, which are poor. Some regulation at low stages from power operations upstream.

AVERAGE DISCHARGE.- 20 years (1910-14, 1915-16, 1918-33), 900 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	85	206	224	657	657	1,020	2,060	382	694	98	75	49
2	56	434	213	694	657	852	2,190	1,020	587	859	57	52
3	42	434	254	657	587	731	2,190	2,590	462	1,590	68	59
4	43	254	246	694	622	587	1,270	1,760	407	980	70	72
5	57	202	243	657	492	554	1,370	1,220	434	578	118	113
6	101	216	216	587	382	492	1,270	1,540	1,820	227	96	79
7	118	216	216	522	351	885	2,320	2,730	1,220	206	68	68
8	151	224	224	492	936	1,370	2,590	2,960	4,680	182	56	68
9	137	240	224	434	560	1,420	1,940	3,430	2,450	160	68	49
10	92	1,040	173	407	440	1,270	1,820	3,320	1,420	137	68	57
11	77	1,320	170	382	370	637	1,700	2,590	1,940	128	64	50
12	70	1,020	189	356	350	492	1,940	2,590	1,700	110	62	43
13	59	810	246	318	370	921	1,700	1,590	554	96	121	34
14	54	522	200	258	420	4,920	2,660	1,480	492	83	108	44
15	56	342	160	231	380	10,900	2,060	1,480	328	77	83	49
16	56	300	140	210	360	7,010	1,590	1,220	356	77	113	56
17	56	407	130	305	360	5,450	1,700	1,170	283	81	81	66
18	103	434	130	347	380	3,970	1,940	1,020	220	74	146	62
19	96	522	130	382	420	4,500	1,820	810	210	72	137	68
20	90	788	135	356	587	3,800	1,700	731	202	70	75	75
21	81	1,700	150	690	1,120	4,320	1,540	980	199	79	57	79
22	74	1,370	180	1,620	622	4,500	1,220	810	134	72	40	81
23	74	770	240	2,060	770	3,170	936	657	196	64	52	85
24	72	657	3,000	1,480	694	2,450	810	587	121	59	94	81
25	70	554	3,480	1,170	980	1,420	731	980	154	98	115	74
26	70	462	2,520	1,270	1,420	1,480	622	810	126	173	118	74
27	98	382	1,170	1,320	1,480	1,540	657	893	176	115	126	75
28	123	243	980	1,120	1,220	1,320	554	1,170	166	85	134	75
29	146	160	852	936	1,170	492	1,120	137	66	81	66	66
30	121	186	694	810	1,220	434	1,120	121	77	62	62	59
31	113	622	622	622	1,320	936	936	936	936	72	59	59
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October					151	42	85.2	0.161		0.19		
November					1,700	160	547	1.04		1.16		
December					3,480	130	572	1.08		1.24		
January					2,060	210	711	1.35		1.56		
February					1,480	350	642	1.22		1.27		
March					10,900	492	2,440	4.62		5.33		
April					2,660	434	1,530	2.90		3.24		
May					3,430	382	1,470	2.78		3.20		
June					4,680	121	733	1.39		1.55		
July					1,590	59	221	.419		.48		
August					146	40	86.2	.163		.19		
September					113	34	65.4	.124		.14		
The year					10,900	34	761	1.44		19.55		

## Mahoning Creek near Dayton

LOCATION.- Chain gage at Independence Bridge, 1 3/4 miles northeast of Dayton, Armstrong County.

DRAINAGE AREA.- 321 square miles (revised).

RECORDS AVAILABLE.- August 1916 to September 1933.

EXTREMES.- Maximum discharge during year, about 6,490 second-feet Mar. 15 (gage height, 7.30 feet); minimum, 22 second-feet Oct. 3 (gage height, 1.60 feet).

1916-33: Maximum gage height (estimated), 9.6 feet Feb. 20, 1918 (discharge not determined); minimum discharge, 8.0 second-feet Oct. 17, 1928 (gage height, 1.40 feet).

REMARKS.- Records good except those above 2,000 second-feet, which are fair, and those estimated for periods of ice effect, Dec. 10-23, Jan. 15-17, Feb. 11-20, and for period of missing gage-height record, Feb. 7-10, which are poor. Slight regulation at low stages from small power operations upstream.

AVERAGE DISCHARGE.- 13 years (1920-33), 565 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	554	223	366	507	674	1,070	244	674	65	47	48
2	25	446	223	335	507	540	1,210	422	507	153	40	40
3	25	179	198	366	507	451	1,310	520	434	133	49	36
4	26	168	214	394	404	404	1,310	520	382	161	79	79
5	36	123	194	482	360	372	1,360	753	345	179	60	107
6	55	79	175	445	350	360	1,460	836	366	133	69	69
7	74	113	183	382	370	475	1,520	970	714	101	55	55
8	74	107	206	366	700	638	1,630	1,520	1,020	101	40	51
9	47	166	202	335	450	753	1,870	1,990	714	107	47	44
10	44	499	160	345	340	674	2,250	3,520	428	85	44	40
11	36	587	150	314	320	527	2,510	3,670	350	60	53	40
12	32	488	160	231	320	475	3,070	4,140	295	51	74	35
13	30	388	200	200	340	1,250	2,930	4,300	257	44	85	36
14	32	469	160	185	370	4,710	2,510	3,980	231	44	101	96
15	33	533	140	185	350	6,150	1,990	3,820	214	40	51	168
16	33	377	130	185	330	4,000	1,520	3,920	191	47	55	136
17	40	214	120	195	330	2,790	1,110	3,220	171	60	53	101
18	74	161	120	210	340	2,510	1,210	2,510	153	51	44	77
19	65	266	120	360	380	2,650	924	2,120	129	42	55	60
20	60	507	120	399	460	3,070	880	1,520	101	36	53	60
21	51	574	130	445	469	3,520	753	1,310	93	40	47	77
22	44	482	170	945	463	2,650	638	1,070	87	38	40	85
23	51	422	500	1,520	488	2,120	547	794	82	35	47	101
24	65	355	3,670	1,100	475	1,460	488	674	79	62	175	96
25	55	319	2,790	1,020	638	1,070	445	714	93	214	146	87
26	55	285	1,590	1,260	1,070	880	410	714	153	129	85	82
27	82	191	794	1,160	924	714	372	794	120	69	65	72
28	96	133	674	924	753	794	330	924	96	69	85	90
29	79	153	547	753	836	295	1,020	96	55	60	101	101
30	93	202	422	601	924	285	970	82	69	44	44	79
31	212	377	475	475	1,070	880	880	880	60	44	44	79
Month					Maximum	Minimum	Mean		Per square mile		Run-off in inches	
October.....					212	25	56.5		0.176		0.20	
November.....					587	79	318		.991		1.11	
December.....					3,670	120	486		1.51		1.74	
January.....					1,520	185	532		1.66		1.91	
February.....					1,070	320	476		1.48		1.64	
March.....					6,150	360	1,600		4.98		5.74	
April.....					3,070	285	1,270		3.96		4.42	
May.....					4,300	244	1,750		5.45		6.28	
June.....					1,020	79	289		.900		1.00	
July.....					214	35	81.7		.255		.29	
August.....					175	40	64.3		.200		.23	
September.....					168	35	74.9		.233		.26	
The year.....					6,150	25	585		1.82		24.72	



Crooked Creek near Ford City

LOCATION.- Chain gage at highway bridge, 3 $\frac{1}{2}$  miles south of Ford City, Armstrong County, and 5 miles above confluence with Allegheny River. Chain gage at a site three-quarters of a mile downstream used prior to July 31, 1933.

DRAINAGE AREA.- 280 square miles (revised).

RECORDS AVAILABLE.- October 1909 to September 1933.

EXTREMES.- Maximum discharge during year, about 10,300 second-feet Mar. 15 (gage height, 10.64 feet); minimum, 0.4 second-foot Oct. 1 (gage height, 0.50 foot).

1909-33: Maximum discharge, about 16,500 second-feet June 29, 1924; maximum gage height, 15.39 feet Mar. 14, 1912 (affected by ice); minimum discharge, 0.1 second-foot Sept. 11, 25, 26, 1932.

REMARKS.- Records poor. Discharge estimated for periods of ice effect, Nov. 28 to Dec. 3, Dec. 9-22, Feb. 9-20. Regulation from power operations upstream.

AVERAGE DISCHARGE.- 22 years (1910-13, 1914-33), 445 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	45	25	492	1,100	297	350	125	560	43	10	12
2	1.7	70	20	369	967	314	560	130	408	36	6.7	9.0
3	3.7	69	19	350	818	264	818	137	280	252	7.2	13
4	4.3	50	19	332	710	233	684	154	264	221	15	33
5	12	50	26	537	560	206	608	127	408	107	12	263
6	22	64	33	537	388	175	584	354	280	57	13	78
7	27	48	58	369	514	194	1,390	608	288	49	12	38
8	25	40	70	314	967	561	1,140	696	1,430	32	13	27
9	18	37	45	314	500	560	876	1,390	1,020	36	16	17
10	14	477	30	314	350	428	710	3,170	390	30	18	12
11	12	384	20	314	300	350	903	2,360	280	26	17	12
12	8.3	183	30	280	300	314	3,250	1,940	221	22	10	9.7
13	5.9	132	70	218	320	666	2,280	1,840	130	21	17	6.1
14	4.6	90	50	186	370	7,680	1,100	1,750	154	21	17	8.4
15	4.0	72	35	195	450	9,050	818	1,580	110	19	12	15
16	3.2	79	25	209	400	6,100	584	1,240	197	16	12	9.7
17	8.9	92	20	189	360	2,980	514	1,100	200	16	21	12
18	20	108	17	157	360	1,220	449	514	144	14	15	28
19	24	345	17	130	400	1,420	790	876	97	14	14	20
20	22	1,000	20	110	600	2,140	967	332	72	14	29	25
21	20	1,140	40	112	736	2,660	560	449	67	12	15	19
22	18	662	200	522	560	1,940	388	312	51	10	5.1	39
23	14	238	753	946	514	1,240	332	248	36	8.8	5.1	17
24	10	159	2,040	793	408	790	280	280	26	11	18	27
25	8.6	120	2,240	1,000	306	710	233	135	26	36	13	62
26	16	107	1,110	1,580	1,000	1,030	312	118	433	466	20	39
27	65	71	633	1,400	876	790	248	280	749	216	21	74
28	65	50	560	1,100	388	684	212	470	264	25	30	137
29	47	40	492	846		633	172	557	125	23	25	105
30	34	30	388	710		492	137	725	53	18	12	76
31	60		492	710		428		790		15		8.4
Month					Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....					65	0.6	19.3	0.069	0.08			
November.....					1,140	30	202	.721	.80			
December.....					2,240	17	310	1.11	1.28			
January.....					1,580	110	504	1.80	2.08			
February.....					1,100	300	554	1.98	2.06			

## Kiskiminitas River at Avonmore

LOCATION.- Chain gage at highway bridge at Avonmore, Westmoreland County. Zero of gage is 805.64 feet above mean sea level.

DRAINAGE AREA.- 1,723 square miles (revised).

RECORDS AVAILABLE.- May 1907 to September 1933.

EXTREMES.- Maximum discharge during year, about 47,600 second-feet Mar. 15 (gage height, 23.0 feet from graph based on gage readings); minimum, 190 second-feet Oct. 3, 4 (gage height, 2.34 feet).

1907-33: Maximum gage height (estimated), 30.8 feet Mar. 19, 1908 (discharge not determined); minimum discharge, 60 second-feet Sept. 18-27, 1908 (gage height, 1.6 feet).

REMARKS.- Records fair except those estimated for periods of ice effect, Nov. 30 to Dec. 2, Dec. 14-24, Feb. 10-16, which are poor. Slight regulation at low stages from power operations upstream.

AVERAGE DISCHARGE.- 26 years (1907-33), 3.010 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	252	440	500	5,150	2,500	2,930	6,350	2,200	4,900	728	368	415
2	252	620	520	3,560	2,720	2,720	6,660	2,520	3,610	868	368	390
3	195	765	555	2,930	2,820	2,300	6,660	7,520	3,040	1,700	368	390
4	192	588	588	2,500	2,300	2,100	6,350	7,380	2,820	2,160	440	1,380
5	202	495	555	2,500	1,910	1,910	5,760	4,900	2,820	1,180	945	3,760
6	305	440	555	2,610	1,910	1,630	5,040	6,180	2,720	845	676	1,920
7	1,100	415	525	2,200	2,300	1,540	10,500	9,890	2,720	690	468	1,180
8	728	390	588	1,910	3,220	2,500	10,800	9,140	6,500	620	390	805
9	525	390	555	1,820	5,780	3,610	8,290	14,900	4,650	588	368	655
10	325	879	468	1,910	3,000	3,040	6,660	27,100	3,610	555	663	555
11	252	2,330	415	1,720	1,900	2,500	5,460	20,000	3,500	588	1,290	468
12	252	1,720	588	1,910	1,800	2,500	9,490	13,800	2,500	525	1,180	555
13	235	1,180	1,060	2,500	2,000	2,640	8,580	9,580	2,100	468	845	805
14	235	950	900	1,910	3,000	11,800	6,350	15,400	1,820	415	620	805
15	235	765	600	1,910	6,500	38,400	5,040	11,900	1,630	415	525	845
16	235	690	450	1,630	5,000	24,500	4,760	9,010	1,540	440	440	1,450
17	235	805	410	1,540	3,990	12,100	5,760	9,770	2,100	415	495	1,020
18	270	845	400	1,540	3,260	8,290	6,200	7,130	2,200	468	415	930
19	288	1,560	400	1,540	2,720	12,200	5,320	5,460	1,540	345	440	728
20	620	5,100	410	2,250	2,940	19,400	8,210	4,500	1,270	390	368	588
21	415	3,520	500	2,000	4,360	15,400	8,130	4,900	1,100	368	325	690
22	345	2,200	800	3,790	3,560	12,500	6,130	3,730	845	368	306	690
23	288	1,630	1,900	4,760	2,930	8,470	4,760	3,040	845	368	325	620
24	270	1,270	5,000	3,730	2,720	6,660	3,970	2,610	765	594	584	555
25	288	1,140	5,360	3,040	2,720	5,320	3,500	8,650	765	765	2,960	525
26	298	1,020	3,620	7,100	4,730	4,900	4,100	5,610	930	1,070	1,720	495
27	325	845	2,610	7,610	4,100	4,230	3,730	4,630	988	922	1,270	495
28	440	620	2,500	5,900	3,380	4,760	3,040	5,610	1,270	690	972	1,180
29	765	525	2,500	4,230	4,900	4,900	2,720	5,320	1,020	555	690	930
30	555	500	2,200	3,040	4,900	4,900	2,600	6,820	806	468	555	728
31	440		3,520	2,820		5,040		7,130		390	525	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					1,100	192	366	0.212		0.24		
November.....					5,100	390	1,170	.679		.76		
December.....					5,360	400	1,340	.778		.90		
January.....					7,610	1,540	3,020	1.75		2.02		
February.....					6,500	1,800	3,220	1.87		1.95		
March.....					38,400	1,540	7,600	4.41		5.08		
April.....					10,800	2,500	6,030	3.50		3.90		
May.....					27,100	2,200	8,200	4.76		5.49		
June.....					6,500	765	2,230	1.29		1.44		
July.....					2,160	345	673	.391		.45		
August.....					2,960	360	707	.410		.47		
September.....					3,760	390	886	.514		.57		
The year.....					38,400	192	2,950	1.71		23.27		



## Stony Creek at Johnstown

LOCATION.- Chain gage at Poplar Street Bridge at Johnstown, Cambria County, 1½ miles above confluence with Little Conemaugh River. Zero of gage is 1,154.0 feet above mean sea level.

DRAINAGE AREA.- 467 square miles (revised).

RECORDS AVAILABLE.- July 1913 to September 1933.

EXTREMES.- Maximum discharge during year, 13,100 second-feet Mar. 15 (gage height, 11.72 feet); minimum, 23 second-feet Oct. 4 (gage height, 0.93 foot).

1913-33: Maximum discharge, about 23,000 second-feet Mar. 29, 1924 (gage height, 16.9 feet from graph based on gage readings); minimum (estimated), 5 second-feet Sept. 8, 1929.

REMARKS.- Records good except those below 100 second-feet and those estimated for periods of ice effect, Dec. 14-22, Feb. 4-17, which are poor. Discharge interpolated for Nov. 24. Diurnal regulation at low stages. Water supply for Cambria Plant of the Bethlehem Steel Co. diverted from Quemahoning Reservoir not included in records except in part of monthly table. Records of monthly diversion furnished by Bethlehem Steel Co.

AVERAGE DISCHARGE.- 19 years (1914-33), 770 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Daily and monthly discharge, in inches.												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35	88	172	601	601	657	1,890	500	1,260	177	57	84
2	32	161	175	547	745	547	1,890	705	930	150	54	82
3	29	149	166	522	686	472	1,800	2,190	650	1,120	57	150
4	28	102	155	522	550	380	1,640	1,560	815	454	368	410
5	53	109	149	522	460	358	1,330	1,330	990	254	206	290
6	258	102	142	472	430	318	1,260	1,400	990	150	123	206
7	244	86	139	496	460	401	2,740	2,460	678	123	114	126
8	109	86	134	547	655	1,000	2,780	2,890	2,070	106	74	97
9	67	197	117	601	650	936	1,980	3,850	1,120	97	60	85
10	53	1,180	111	380	540	903	1,640	7,600	1,400	101	62	78
11	46	629	134	318	480	686	1,330	4,500	1,050	101	290	221
12	38	358	172	318	440	601	1,120	4,110	678	89	206	328
13	35	299	161	338	440	2,210	1,400	3,980	548	89	114	254
14	43	200	140	318	470	9,570	1,190	2,670	500	84	85	163
15	43	178	120	299	600	11,460	1,120	2,070	432	85	69	348
16	35	166	110	299	500	4,910	1,300	2,460	410	85	60	328
17	38	230	105	251	460	3,120	2,260	2,070	760	87	64	272
18	178	207	100	273	472	2,460	1,720	1,560	548	80	66	238
19	273	318	100	338	547	3,480	1,890	1,330	368	71	60	163
20	181	1,390	100	380	601	5,050	3,850	990	272	62	51	163
21	102	686	110	299	715	3,850	2,890	930	238	64	48	191
22	80	472	120	547	657	3,000	2,160	815	191	69	48	163
23	78	380	318	547	547	2,460	1,400	598	177	93	78	137
24	71	302	1,600	496	424	1,400	1,120	477	163	95	1,150	123
25	71	224	715	447	574	1,190	930	1,560	150	524	815	106
26	72	210	522	1,390	1,320	1,050	1,120	990	150	191	328	101
27	94	178	472	1,470	1,000	930	870	650	309	191	191	97
28	237	129	657	936	715	1,050	678	990	309	137	137	110
29	129	144	547	686		1,120	598	1,050	191	97	121	101
30	102	166	574	574		1,560	548	1,980	163	78	93	99
31	84		970	574		1,720		1,980		64	85	
Month		Observed			Diversion	Corrected for diversion						
		Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches				
October.....		273	28	94.8	49.8	145	0.310	0.36				
November.....		1,390	86	304	50.1	354	.758	.85				
December.....		1,600	100	300	47.8	348	.745	.86				
January.....		1,470	251	526	58.7	585	1.25	1.44				
February.....		1,320	424	597	66.8	664	1.42	1.48				
March.....		11,460	318	2,220	76.1	2,300	4.92	5.67				
April.....		3,850	548	1,610	87.9	1,700	3.64	4.06				
May.....		7,600	477	2,010	110	2,120	4.54	5.23				
June.....		2,070	150	617	115	732	1.57	1.75				
July.....		1,120	62	167	103	270	.578	.67				
August.....		1,150	48	172	98	270	.578	.67				
September.....		410	78	177	72.3	249	.533	.59				
The year.....		11,460	28	735	78	813	1.74	23.63				

## Blacklick Creek at Blacklick

LOCATION.- Chain gage at highway bridge at Gratton one-fourth mile northwest of Blacklick, Indiana County.

DRAINAGE AREA.- 390 square miles (revised).

RECORDS AVAILABLE.- August 1904 to December 1905; January 1907 to September 1933.

EXTREMES.- Maximum discharge during year, 11,100 second-feet Mar. 15 (gage height, 9.28 feet); minimum, 24 second-feet Oct. 3 (gage height, 2.10 feet).

1904-5, 1907-33: Maximum discharge, about 21,000 second-feet Sept. 3, 1912 (gage height, 12.90 feet); minimum, 6 second-feet Sept. 12, 16-27, 1908 (gage height, 1.88 feet).

REMARKS.- Records fair except those for high stages and those estimated for periods of ice effect, Nov. 28 to Dec. 3, Dec. 10-23, Feb. 9-14, and for day of missing gage-height record, Jan. 23, which are poor. Diurnal regulation at low stages from power operations upstream.

AVERAGE DISCHARGE.- 26 years (1907-33), 666 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	120	130	904	568	631	1,500	290	861	82	42	54
2	32	290	133	730	696	538	1,670	559	654	100	38	54
3	28	191	150	664	538	478	1,500	2,400	488	423	35	45
4	30	145	137	568	394	449	1,440	1,710	411	190	72	284
5	28	130	127	730	338	343	1,230	1,130	564	132	65	468
6	210	123	130	600	394	295	1,180	1,790	348	91	44	246
7	262	113	148	507	458	333	3,540	2,140	334	80	40	125
8	119	96	171	449	1,350	631	2,560	2,500	1,790	67	45	88
9	62	110	137	449	600	664	1,790	3,700	750	67	45	74
10	52	540	130	449	400	449	1,380	6,420	623	72	115	74
11	52	523	130	394	350	314	1,060	4,010	382	60	337	69
12	44	342	150	631	340	422	2,820	2,710	300	54	115	91
13	42	250	210	368	350	665	1,920	2,270	242	49	85	96
14	57	203	170	422	450	5,730	1,440	4,130	206	49	72	88
15	49	179	140	343	942	8,640	1,130	2,780	181	51	54	93
16	44	160	130	305	664	4,520	995	2,780	186	45	51	118
17	49	216	120	343	664	2,640	1,280	2,480	285	65	58	93
18	57	199	120	333	631	1,790	1,180	1,610	228	56	45	67
19	60	750	120	562	568	3,540	1,040	1,230	154	51	42	62
20	62	1,230	120	664	696	4,240	818	995	132	44	42	60
21	52	730	140	507	1,060	3,430	775	1,130	118	40	37	72
22	47	538	360	1,020	793	2,850	638	734	118	40	40	74
23	49	368	700	1,600	730	1,670	501	571	99	82	44	85
24	57	333	1,920	980	631	1,380	455	616	69	62	198	91
25	60	272	1,520	869	664	1,040	424	1,840	74	122	224	82
26	55	250	980	2,140	1,140	950	677	995	128	93	186	69
27	106	148	696	1,520	798	861	508	1,180	109	72	285	72
28	211	120	696	1,180	664	995	399	1,180	135	54	128	478
29	183	120	538	942		1,130	316	1,130	115	47	80	276
30	137	125	538	730		1,180	316	1,790	80	40	67	161
31	120		980	631		1,380		1,230		42	60	
Month						Maximum	Minimum	Mean	Per square mile	Run-off in inches		
October.....						262	28	79.0	0.203	0.23		
November.....						1,280	96	299	.767	.86		
December.....						1,920	120	383	.982	1.13		
January.....						2,140	305	727	1.96	2.14		
February.....						1,350	338	638	1.64	1.71		
March.....						8,640	295	1,750	4.49	5.18		
April.....						2,920	316	1,220	3.13	3.49		
May.....						6,420	290	1,930	4.95	5.71		
June.....						1,790	69	339	.869	.97		
July.....						423	40	81.4	.209	.24		
August.....						337	35	90.0	.231	.27		
September.....						478	45	127	.326	.36		
The year.....						8,640	28	640	1.64	22.29		



## Loyalhanna Creek at New Alexandria

LOCATION.- Chain gage at highway bridge at New Alexandria, Westmoreland County. Zero of gage is 917.26 feet above mean sea level.

DRAINAGE AREA.- 265 square miles (revised).

RECORDS AVAILABLE.- August 1913 to August 1918; August 1919 to July 1923; November 1925 to September 1933.

EXTREMES.- Maximum discharge during year, about 10,000 second-feet Mar. 15 (gage height, 12.3 feet from graph based on gage readings); minimum, 14 second-feet Oct. 11-13 (gage height, 1.72 feet).

1913-18, 1919-23, 1925-33: Maximum discharge, about 10,400 second-feet Oct. 20, 1927 (gage height, 12.65 feet from graph based on gage readings); minimum, 2.4 second-feet Oct. 3, 1927 (gage height, 1.46 feet).

REMARKS.- Records fair except those for extremely high stages and those estimated for periods of ice effect, Dec. 14-23, Feb. 11-14, which are poor. Some regulation at low stages from power operations upstream.

AVERAGE DISCHARGE.- 10 years (1919-22, 1926-33), 447 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	33	41	846	325	334	757	325	608	68	33	58
2	15	41	41	588	329	317	788	421	472	99	30	58
3	15	54	58	387	271	279	852	1,260	372	238	42	54
4	15	47	56	356	210	247	983	1,190	325	112	56	127
5	18	41	43	378	188	221	788	757	325	84	75	372
6	76	33	45	334	192	202	788	1,630	608	73	80	217
7	76	30	54	275	236	224	1,410	1,400	472	64	52	187
8	41	30	58	251	511	415	1,480	1,710	498	64	56	139
9	24	33	49	263	263	588	1,190	1,950	552	64	56	110
10	18	255	41	287	152	458	1,020	5,360	788	60	136	92
11	14	139	34	283	140	462	788	3,300	552	56	206	87
12	14	89	275	438	140	462	1,590	2,040	343	56	152	302
13	15	74	238	356	160	836	926	1,480	258	52	105	396
14	16	56	150	259	340	5,680	726	1,480	238	54	92	348
15	16	45	100	255	1,060	7,480	757	1,400	206	48	84	302
16	18	41	60	210	876	3,250	820	1,260	187	42	60	217
17	21	49	40	196	642	1,790	820	1,120	198	50	58	187
18	24	76	35	188	511	2,940	696	950	238	41	62	139
19	24	145	35	196	556	4,520	1,020	757	183	37	50	107
20	24	369	40	224	642	4,040	2,380	696	155	35	37	121
21	23	221	80	192	588	2,740	1,600	608	124	35	39	118
22	20	149	300	224	486	2,040	1,120	472	112	35	37	110
23	26	98	900	279	438	1,400	852	421	105	33	96	102
24	38	89	938	325	365	983	666	582	102	33	345	94
25	24	84	511	338	387	788	580	2,030	99	66	498	80
26	18	74	329	1,790	562	757	820	950	105	102	216	78
27	31	74	283	1,100	462	666	696	788	102	97	136	87
28	64	71	308	786	397	820	525	696	97	71	110	183
29	58	64	271	562	757	421	917	87	56	56	89	124
30	31	56	300	415	666	372	1,120	102	50	78	97	97
31	33		1,100	360	696	696		917		41	64	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	76	14	28.0	0.106	0.12
November.....	369	30	88.7	.335	.37
December.....	1,100	34	220	.830	.96
January.....	1,790	188	417	1.57	1.81
February.....	1,060	140	407	1.54	1.60
March.....	7,480	202	1,520	5.74	6.62
April.....	2,380	372	941	3.55	3.96
May.....	5,360	325	1,290	4.87	5.62
June.....	788	97	287	1.08	1.20
July.....	238	33	65.0	.245	.28
August.....	498	30	104	.392	.45
September.....	396	54	156	.589	.66
The year.....	7,480	14	462	1.74	23.65

## Youghiogheny River at Connellsville

LOCATION.- Water-stage recorder at Crawford Avenue Bridge at Connellsville, Fayette County. Zero of gage is 860.13 feet above mean sea level.

DRAINAGE AREA.- 1,326 square miles (revised).

RECORDS AVAILABLE.- July 1908 to September 1933.

EXTREMES.- Maximum discharge during year, 46,900 second-feet Mar. 14 (gage height, 14.9 feet); minimum, 94 second-feet Oct. 5 (gage height, 0.59 foot).

1908-33: Maximum discharge, 65,900 second-feet Mar. 29, 1924 (gage height, 20.5 feet from graph based on gage readings); minimum, 11 second-feet Sept. 23, 26, 27, 1908, Oct. 18, 1910 (gage height, 0.11 foot).

REMARKS.- Records good except those estimated for periods of ice effect, Dec. 16-22, Feb. 5-14, which are poor. Regulation from operation of hydroelectric plants upstream. Gage-height record furnished by West Penn Power Co.

AVERAGE DISCHARGE.- 24 years (1908-18, 1919-33), 2,490 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	253	479	783	5,560	2,020	2,680	5,560	1,960	2,300	671	222	584		
2	207	705	650	4,040	2,300	2,300	5,560	2,660	1,960	679	329	690		
3	166	819	708	3,110	2,940	2,020	5,780	5,930	1,650	1,650	348	551		
4	156	596	674	2,760	2,440	1,770	5,560	4,930	1,500	1,850	642	1,040		
5	178	465	573	2,680	1,700	1,590	4,930	3,660	3,580	897	738	5,300		
6	529	412	531	2,760	1,400	1,370	4,530	5,750	3,340	799	622	2,920		
7	814	384	552	2,370	1,500	1,560	9,470	11,200	2,350	756	352	1,720		
8	544	391	583	2,090	2,350	2,640	8,520	8,480	3,190	691	299	1,240		
9	380	414	596	1,900	2,500	3,470	6,440	11,800	2,740	619	340	1,040		
10	231	1,890	400	1,960	1,460	2,940	4,930	20,100	2,230	574	360	840		
11	184	2,900	286	1,960	1,300	2,300	4,040	13,400	1,900	689	778	654		
12	294	1,800	849	2,650	1,300	2,300	6,480	12,200	1,370	675	966	754		
13	301	1,300	1,360	2,850	1,400	5,470	6,440	8,630	1,270	619	790	945		
14	290	989	1,200	2,300	1,700	36,100	4,930	8,370	1,140	562	559	927		
15	280	810	852	2,020	3,640	23,000	4,040	7,380	1,050	574	486	1,370		
16	250	734	550	1,710	4,530	14,500	3,560	6,900	1,010	496	512	1,420		
17	166	990	390	1,590	3,660	8,790	4,430	6,900	1,130	418	440	1,110		
18	367	971	350	1,480	3,200	6,440	4,330	5,240	1,140	316	358	776		
19	1,060	1,370	350	1,540	2,680	13,200	4,340	4,130	825	357	276	794		
20	890	5,890	380	1,650	3,040	15,200	12,400	3,380	877	329	255	860		
21	626	3,580	500	1,540	4,530	12,800	9,180	3,110	836	316	218	865		
22	501	2,300	1,100	2,120	3,380	10,000	6,440	2,520	774	300	206	821		
23	389	1,710	3,680	3,200	2,940	7,130	4,830	2,230	714	306	403	710		
24	286	1,370	5,600	2,680	2,520	5,350	3,840	1,960	669	397	1,780	558		
25	319	1,210	6,220	2,230	2,300	4,230	3,660	3,570	719	710	3,370	463		
26	421	1,180	4,330	3,430	4,420	3,750	4,330	2,940	492	749	1,860	444		
27	521	1,100	3,110	4,430	3,840	3,110	3,940	2,230	778	602	1,120	591		
28	810	776	3,560	3,940	3,110	3,660	3,110	2,090	975	531	736	536		
29	761	571	3,560	3,110	4,040	2,600	1,900	833	445	718	602	602		
30	566	687	3,020	2,440	4,430	2,090	2,750	748	350	613	491	491		
31	435		4,600	2,160		4,830		3,350		268	604			
Month					Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October					1,060		156		425		0.321		0.37	
November					5,890		384		1,290		.973		1.09	
December					6,220		286		1,670		1.26		1.45	
January					5,560		1,480		2,590		1.95		2.25	
February					4,530		1,300		2,650		2.00		2.08	
March					36,100		1,370		6,870		5.18		5.97	
April					12,400		2,090		5,340		4.03		4.50	
May					20,100		1,900		5,860		4.42		5.10	
June					3,580		492		1,470		1.11		1.24	
July					1,850		268		619		.467		.54	
August					3,370		206		687		.518		.60	
September					5,300		444		1,050		.792		.88	
The year					36,100		156		2,550		1.92		26.07	



Youghiogheny River at Sutersville

LOCATION.- Chain gage at highway bridge at Sutersville, Westmoreland County. Zero of gage is 733.14 feet above mean sea level.

DRAINAGE AREA.- 1,715 square miles (revised).

RECORDS AVAILABLE.- June 1915 to September 1929; June 1931 to September 1933.

EXTREMES.- Maximum discharge during year, 56,900 second-feet Mar. 14 (gage height, 21.06 feet); minimum, 72 second-feet Oct. 5 (gage height, 2.20 feet).

1915-29, 1931-33: Maximum discharge, about 88,200 second-feet Mar. 30, 1924 (gage height, 27.5 feet from graph based on gage readings); minimum gage height, 1.96 feet July 10, 1918 (discharge not determined).

REMARKS.- Records fair except those estimated for periods of ice effect, Dec. 10, 11, 17-21, Feb. 10-18, which are poor. Diurnal regulation from operations at hydroelectric plants upstream. Cost of all equipment, maintenance, and operation paid by United States Engineer Office, Pittsburgh, Pa.

AVERAGE DISCHARGE.- 13 years (1917-19, 1920-29, 1931-33), 2,800 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	379	699	932	7,020	2,590	3,080	6,080	2,440	3,080	883	278	685
2	341	656	883	4,710	2,590	2,910	5,890	2,750	2,440	836	220	655
3	260	980	789	3,790	3,430	2,590	6,080	4,710	2,010	1,340	329	866
4	197	836	836	3,250	3,080	2,150	5,890	5,480	1,880	2,010	685	875
5	127	699	789	3,080	2,590	1,880	5,480	4,150	3,790	1,510	866	4,460
6	371	587	699	3,250	1,880	1,750	4,900	4,890	3,970	789	708	3,820
7	836	513	656	2,910	2,010	1,630	8,740	11,000	2,910	932	590	2,100
8	836	513	699	2,590	2,590	2,590	9,580	8,890	2,440	883	360	1,540
9	595	570	744	2,290	3,970	4,150	7,120	11,900	3,610	789	360	1,320
10	481	943	750	2,440	2,000	3,610	5,680	24,200	2,910	744	360	1,080
11	311	3,550	450	2,290	1,600	2,910	4,710	17,000	2,440	546	678	992
12	246	2,440	699	2,440	1,600	2,750	8,320	13,600	1,880	883	817	907
13	402	1,630	1,790	3,430	1,700	4,690	8,210	10,100	1,400	744	866	1,120
14	387	1,290	1,630	2,750	2,000	43,800	6,080	9,350	1,400	656	708	1,220
15	402	980	1,180	2,440	3,300	37,100	4,900	8,660	1,240	595	492	1,480
16	387	883	836	2,150	6,000	22,800	4,520	7,550	1,240	656	540	1,650
17	394	1,080	600	1,880	5,400	10,800	4,710	7,770	1,290	529	597	1,540
18	246	1,130	460	1,750	4,800	7,550	5,090	6,080	1,460	418	498	1,270
19	699	1,350	450	1,750	4,330	12,800	5,160	4,900	1,180	402	404	778
20	1,030	5,420	450	1,880	3,250	19,600	12,800	3,970	789	379	348	1,270
21	932	4,710	550	1,880	4,900	15,800	11,200	3,790	1,080	356	329	1,170
22	587	3,080	1,270	2,150	4,330	12,300	7,770	3,430	980	356	272	1,040
23	562	2,150	4,940	3,610	3,430	8,430	5,680	2,750	932	356	215	992
24	441	1,630	5,080	3,430	3,080	6,490	4,520	2,440	789	589	758	866
25	394	1,460	6,700	2,750	2,750	5,280	4,150	3,430	744	1,120	3,540	655
26	457	1,290	5,090	5,420	4,260	4,900	4,520	3,790	789	1,150	2,540	478
27	546	1,240	3,790	5,480	4,710	4,330	4,710	3,080	554	704	1,540	626
28	744	1,030	3,610	5,090	3,610	4,150	3,790	2,750	1,240	604	1,220	746
29	980	836	4,150	3,790	4,520	3,080	2,440	2,440	1,030	540	731	678
30	744	744	3,430	3,250	4,900	2,750	2,750	2,750	932	411	907	716
31	656		4,620	2,750		4,900		4,330		379	670	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					1,030	127	515	0.300		0.35		
November.....					5,420	513	1,500	.875		.98		
December.....					6,700	450	1,950	1.14		1.31		
January.....					7,020	1,750	3,150	1.84		2.12		
February.....					6,000	1,600	3,280	1.91		1.99		
March.....					43,800	1,630	8,610	5.02		5.79		
April.....					12,800	2,750	6,070	3.54		3.95		
May.....					24,200	2,440	6,590	3.84		4.43		
June.....					3,970	554	1,750	1.02		1.14		
July.....					2,010	356	745	.434		.50		
August.....					3,540	215	768	.441		.51		
September.....					4,460	478	1,250	.729		.81		
The year.....					43,800	127	3,020	1.76		23.88		

Casselman River at Markleton

LOCATION.- Chain gage at highway bridge at Markleton, Somerset County, 2 miles southwest of Casselman, and 7 miles below mouth of Coxes Creek.

**DRAINAGE AREA.-** 382 square miles (revised).

RECORDS AVAILABLE.- August 1913 to September 1933.

EXTREMES.- Maximum discharge during year, about 12,600 second-feet Mar. 14 (gauge height, 9.9 feet from graph based on gauge readings); minimum, 21 second-feet Oct. 4 (gauge height, 1.59 feet).

1913-33: Maximum gage height, 12.17 feet Mar. 29, 1924 (discharge not determined); minimum discharge, 11 second-feet Aug. 13, 1930 (gage height, 1.52 feet).

REMARKS.- Records fair except those for high stages and those estimated for periods of ice effect, Nov. 29 to Dec. 2, Dec. 11-23, Feb. 11-14, which are poor. Slight regulation at low stages from power operations upstream.

AVERAGE DISCHARGE.- 13 years (1920-33), 611 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	33	206	160	1,060	670	670	1,670	450	572	77	52	71		
2	30	381	180	775	1,150	572	1,670	572	450	82	48	75		
3	26	261	229	670	1,020	510	1,670	1,600	371	322	51	89		
4	22	197	208	670	775	450	1,400	930	480	237	208	1,240		
5	31	175	204	740	605	398	1,060	840	420	132	152	1,080		
6	165	154	191	670	450	351	1,220	1,690	450	90	86	443		
7	252	143	208	572	605	450	3,060	2,810	304	77	57	241		
8	122	140	197	510	1,130	930	2,200	3,090	970	68	50	175		
9	73	156	148	480	718	810	1,500	5,160	510	71	42	140		
10	55	1,770	114	480	480	638	1,200	7,000	342	219	63	124		
11	40	1,110	100	480	440	540	1,020	3,840	313	97	177	84		
12	42	605	200	850	430	540	1,910	3,290	269	73	124	157		
13	40	480	230	540	440	1,810	1,350	2,570	222	55	84	162		
14	35	366	170	510	520	9,290	1,060	2,290	191	54	68	159		
15	35	308	110	420	890	6,020	890	1,790	178	60	51	482		
16	36	273	95	356	638	3,270	993	1,790	171	55	45	286		
17	78	327	90	398	633	2,100	1,760	1,450	269	60	47	249		
18	681	313	90	377	605	1,710	1,500	1,100	229	50	50	191		
19	510	1,140	90	420	541	4,690	1,570	890	171	50	38	143		
20	351	1,800	95	450	850	3,190	3,940	775	140	41	33	171		
21	219	1,020	140	409	993	2,870	2,360	850	120	39	28	162		
22	159	705	400	740	670	2,160	1,640	670	99	33	27	127		
23	134	540	740	810	670	1,620	1,200	540	94	73	27	105		
24	140	480	1,680	605	572	1,300	1,020	495	90	86	825	92		
25	127	404	1,550	540	685	1,020	890	1,160	82	296	610	79		
26	108	414	970	1,100	1,200	890	1,100	734	82	151	236	75		
27	241	251	775	1,450	792	775	810	605	132	127	140	71		
28	317	204	1,200	1,100	705	890	638	572	197	114	108	79		
29	245	160	930	850		1,060	572	510	114	86	88	75		
30	191	155	890	670		1,300	480	1,150	84	63	75	69		
31	151		1,200	670		1,620		775		52	71			
Month					Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October.....					681		22		151		0.395		0.46	
November.....					1,800		140		489		1.28		1.43	
December.....					1,680		90		438		1.15		1.33	
January.....					1,450		356		657		1.72		1.98	
February.....					1,200		430		710		1.86		1.94	
March.....					9,290		351		1,760		4.61		5.32	
April.....					3,940		480		1,440		3.77		4.21	
May.....					7,000		92		1,670		4.37		5.04	
June.....					970		82		271		.709		.79	
July.....					322		33		100		.262		.30	
August.....					825		27		121		.317		.37	
September.....					1,240		69		223		.584		.65	
The year.....					9,290		22		670		1.75		23.82	







## Chartiers Creek at Carnegie

LOCATION.- Chain gage at Main Street Bridge at Carnegie, Allegheny County. Zero of gage is 757.912 feet above mean sea level. Chain gage at Pennsylvania Railroad bridge 1,500 feet upstream used prior to Jan. 8, 1932.

DRAINAGE AREA.- 264 square miles (revised).

RECORDS AVAILABLE.- June 1915 to September 1933.

EXTREMES.- Maximum discharge during year (estimated), 11,100 second-feet Mar. 15 (gage height, 10.0 feet from graph based on gage readings); minimum, 19 second-feet Oct. 2, 3, 11 (gage height, 0.60 foot).

1915-33: Maximum gage height, 16.1 feet at former site June 17, 1920 (discharge not determined); minimum, 1.19 feet, at former site, Oct. 7-9, 1916 (discharge not determined).

REMARKS.- Records poor. Discharge estimated for periods of ice effect, Nov. 28, 29, Dec. 15-21, Feb. 10-13.

AVERAGE DISCHARGE.- 12 years (1919-30, 1932-33), 342 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	35	46	343	319	186	520	235	180	76	42	42
2	19	40	44	222	355	186	449	263	168	151	40	40
3	21	40	46	209	278	174	427	263	149	293	60	51
4	22	36	49	177	242	174	427	232	163	107	263	116
5	39	31	44	168	196	154	405	196	193	71	100	321
6	54	38	55	154	186	138	496	405	154	58	62	126
7	47	40	61	138	242	256	877	520	131	52	42	66
8	35	32	54	123	596	472	622	785	123	56	44	51
9	34	81	48	121	312	622	496	1,420	116	52	49	42
10	23	186	40	144	215	347	449	3,300	110	48	149	35
11	20	131	47	128	192	239	1,110	1,480	97	47	102	37
12	23	62	64	112	180	260	3,480	1,210	93	38	56	126
13	24	47	62	89	190	1,280	1,080	940	91	37	76	78
14	26	40	55	97	278	4,470	731	1,290	81	43	302	60
15	25	38	46	87	363	8,110	596	1,070	85	67	162	78
16	29	64	39	87	359	2,350	676	940	95	71	70	61
17	34	151	33	95	339	1,140	731	676	112	56	166	47
18	29	120	31	97	308	1,140	596	545	101	51	76	40
19	31	364	30	138	312	3,070	664	472	93	48	62	40
20	31	424	30	136	359	2,440	1,260	427	74	46	62	56
21	29	196	33	105	384	4,000	817	449	69	47	48	85
22	30	133	64	235	289	1,720	622	363	69	43	42	71
23	36	89	138	384	278	1,140	496	304	66	43	40	55
24	30	93	339	285	293	847	472	274	60	63	56	43
25	27	76	293	857	271	759	449	343	62	291	54	43
26	37	67	209	2,380	246	877	427	260	61	165	48	39
27	44	58	146	970	215	759	363	274	60	233	42	58
28	52	50	123	647	199	676	331	300	60	81	38	126
29	40	50	101	496		545	285	249	61	66	37	85
30	30	49	110	405		496	256	235	60	55	37	67
31	25		323	363		449	205			46	43	
Month	Maximum		Minimum		Mean		Per square mile		Run-off in inches			
October	54		19		31.3		0.119		0.14			
November	424		31		95.4		.361		.40			
December	339		30		90.4		.342		.39			
January	2,380		87		329		1.25		1.44			
February	596		180		286		1.08		1.12			
March	8,110		138		1,270		4.81		5.54			
April	3,480		256		687		2.60		2.90			
May	3,300		196		643		2.44		2.81			
June	193		60		101		.383		.43			
July	293		37		83.9		.318		.37			
August	302		37		79.7		.302		.35			
September	321		35		72.8		.276		.31			
The year	8,110		19		315		1.19		16.20			

## Beaver River at Wampum

LOCATION.- Chain gage at highway bridge at Wampum, Lawrence County.

DRAINAGE AREA.- 2,235 square miles.

RECORDS AVAILABLE.- August 1932 to September 1933; June to September 1914.

EXTREMES.- Maximum discharge during year, about 30,800 second-feet Mar. 15 (gage height, 16.06 feet); minimum, 74 second-feet July 30 (gage height, 1.70 feet).

1932-33: Maximum discharge, that of Mar. 15, 1933; minimum, that of July 30, 1933.

REMARKS.- Records fair except those for extremely high stages and those estimated for periods of ice effect, Dec. 15-22, Feb. 10-14, which are poor. Cost of all equipment, maintenance, and operation of station paid by United States Engineer Office, Pittsburgh, Pa.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	132	576	416	4,850	1,390	2,210	3,920	1,060	1,340	295	196	143		
2	147	629	411	3,880	1,440	1,970	4,790	1,060	1,010	320	179	129		
3	116	533	400	2,330	1,440	1,640	4,790	1,100	884	444	183	162		
4	147	473	533	2,330	1,290	1,440	4,260	1,100	769	320	346	222		
5	147	444	533	2,330	1,010	1,290	3,600	1,060	1,290	290	222	174		
6	179	416	503	2,330	845	1,240	4,610	1,140	1,590	305	166	183		
7	155	367	533	1,880	946	1,190	6,940	1,240	1,290	265	110	170		
8	174	367	564	1,590	1,950	2,750	6,540	1,540	967	151	140	166		
9	162	376	564	1,440	2,410	6,470	4,790	2,030	926	196	209	200		
10	143	718	564	1,340	1,800	5,560	3,760	3,040	884	166	204	159		
11	129	697	596	1,190	1,500	3,300	3,520	2,590	845	183	236	106		
12	147	697	596	1,140	1,300	2,590	12,000	2,330	806	-183	209	110		
13	196	629	533	1,010	1,200	3,430	12,600	2,090	769	169	192	119		
14	209	564	473	845	1,100	19,900	8,720	2,330	697	129	151	129		
15	204	473	460	926	1,010	29,400	5,180	2,860	662	170	166	192		
16	170	473	410	845	926	23,800	4,930	2,090	596	320	132	147		
17	200	697	390	806	967	15,500	8,190	1,750	845	183	122	113		
18	275	663	390	845	926	7,410	6,940	1,540	662	187	136	106		
19	260	1,380	380	1,010	926	6,640	5,940	1,340	662	196	103	170		
20	246	1,900	380	1,240	1,010	9,280	7,980	1,140	533	151	116	192		
21	241	1,750	390	1,390	1,770	12,000	7,560	1,010	416	122	113	119		
22	232	1,180	430	1,490	1,800	9,570	4,610	967	357	97	110	136		
23	204	884	836	2,090	1,590	7,160	3,440	967	341	174	97	132		
24	270	732	1,960	2,460	1,750	4,790	2,860	834	331	174	116	179		
25	212	629	2,660	1,860	1,820	3,600	1,970	3,520	285	166	100	162		
26	232	629	2,770	1,750	3,800	3,140	1,750	5,050	290	143	129	183		
27	415	596	1,760	1,860	3,600	3,600	1,490	3,920	352	151	147	187		
28	436	503	1,490	2,590	2,520	4,880	1,340	2,860	331	192	126	170		
29	338	473	1,490	2,330		4,610	1,240	2,460	411	151	119	179		
30	344	444	1,210	1,860		3,920	1,100	1,860	473	116	129	162		
31	295		2,570	1,390		3,440		1,640		192	136			
Month					Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October.....					436		116		218		0.098		0.11	
November.....					1,900		367		696		.311		.35	
December.....					2,770		380		877		.392		.45	
January.....					4,850		806		1,780		.796		.92	
February.....					3,800		845		1,570		.702		.73	
March.....					29,400		1,190		6,700		3.00		3.46	
April.....					12,600		1,100		5,050		2.26		2.52	
May.....					5,050		834		1,920		.859		.90	
June.....					1,590		285		720		.322		.36	
July.....					444		97		203		.091		.10	
August.....					346		97		156		.070		.08	
September.....					222		106		167		.070		.08	
The year.....					29,400		97		1,670		.747		10.15	



## Shenango River near Jamestown

LOCATION.- Chain gage at Frye Bridge 2 miles downstream from Jamestown, Mercer County. Zero of gage is 955.00 feet above mean sea level.

DRAINAGE AREA.- 181 square miles (revised).

RECORDS AVAILABLE.- December 1919 to September 1933.

EXTREMES.- Maximum discharge during year, 1,240 second-feet Mar. 14 (gage height, 5.6 feet from graph based on gage readings); minimum, 2.0 second-feet July 18, Aug. 16-18 (gage height, 1.00 foot).

1919-33: Maximum gage height (estimated), 9.6 feet Mar. 13, 1920 (discharge not determined); minimum discharge, 1.3 second-feet Aug. 20, 1923.

Maximum stage known, 14.2 feet Mar. 26, 27, 1913 (discharge not determined).

REMARKS.- Records fair except those estimated for periods of ice effect, Nov. 25 to Dec. 1, Dec. 11-22, Jan. 13, Feb. 4-7, 10-16, 19, Mar. 11-12, which are poor. Regulation from storage in Pymatuning Reservoir and from mill operations at Jamestown. Water stored in Pymatuning Reservoir not included in records except in part of monthly table.

AVERAGE DISCHARGE.- 13 years (1920-33), 224 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.0	30	27	388	213	320	673	163	49	10	2.1	5.5
2	5.4	28	25	432	213	262	673	135	40	14	2.6	5.0
3	5.7	18	25	447	189	245	639	135	34	34	3.3	14
4	5.4	20	25	388	154	235	639	107	30	30	3.7	7.0
5	5.7	21	25	360	139	213	606	101	44	23	3.2	5.8
6	6.4	17	30	320	134	206	675	146	38	16	2.9	4.8
7	5.7	17	35	307	140	202	707	169	34	12	2.4	4.1
8	5.2	16	41	270	260	320	639	144	28	8.8	2.7	5.2
9	5.4	17	58	246	270	320	639	152	25	9.5	2.9	4.3
10	5.7	46	37	224	240	258	573	165	19	8.4	2.6	4.1
11	6.8	41	55	204	200	250	509	161	18	8.4	2.6	4.1
12	6.8	46	50	182	180	270	910	158	12	3.5	2.4	4.1
13	6.8	47	45	173	150	438	886	161	10	2.7	2.4	3.7
14	5.2	38	40	119	140	884	849	148	10	2.6	2.3	4.5
15	4.1	35	25	148	125	638	742	121	10	2.6	2.1	3.8
16	5.4	35	30	103	102	629	813	107	12	2.6	2.0	3.8
17	6.2	50	25	77	101	592	813	103	30	2.6	2.0	3.8
18	7.5	56	22	74	107	645	742	99	15	2.1	2.0	3.8
19	6.8	107	20	96	105	813	777	96	8.8	2.3	5.2	4.0
20	7.9	117	22	107	158	777	742	88	9.5	2.3	5.5	3.7
21	9.9	98	25	111	204	849	673	77	7.9	2.3	4.7	5.8
22	9.4	83	30	148	258	742	639	60	8.4	2.6	12	6.0
23	11	79	35	206	282	707	541	53	7.9	2.9	6.3	7.0
24	12	79	173	187	282	639	432	146	7.0	3.5	5.2	6.3
25	11	75	211	184	428	573	360	258	8.8	3.5	4.5	7.0
26	10	71	176	213	375	541	333	165	19	2.7	5.8	7.0
27	21	74	167	235	360	478	294	121	15	2.6	10	7.9
28	17	54	173	246	402	478	235	99	44	2.6	5.8	8.8
29	21	43	158	209		478	195	81	24	2.4	12	7.9
30	22	34	154	247		462	187	70	12	2.3	12	7.9
31	19		404	235		656		62		2.3	9.5	
Month	Observed			Storage		Corrected for storage						
	Maximum	Minimum	Mean	(Mean)	(Mean)	Mean	Per square mile	Run-off in inches				
October	22	4.1	9.11	+0.97	10.1	0.056	0.06					
November	117	16	49.7	-.25	49.4	.273	.30					
December	404	20	76.4	+17.0	93.4	.516	.59					
January	447	74	222	-3.29	219	1.21	1.40					
February	428	101	211	+37.0	248	1.37	1.43					
March	884	202	488	+70.6	559	3.09	3.56					
April	910	187	604	-106	498	2.75	3.07					
May	258	53	124	-12.8	111	.613	.71					
June	49	7.0	21.0	-1.05	20.0	.110	.12					
July	34	2.1	7.33	+1.53	8.86	.049	.06					
August	12	2.0	4.67	-1.70	2.97	.016	.02					
September	14	3.7	5.69	-2.18	3.51	.019	.02					
The year	910	2.0	151	-.03	151	.834	11.34					

## Shenango River at Sharon

LOCATION.- Water-stage recorder at Chestnut Street Bridge at Sharon, Mercer County. Zero of gage is 840.00 feet above mean sea level.

DRAINAGE AREA.- 608 square miles (revised).

RECORDS AVAILABLE.- August 1909 to September 1933.

EXTREMES.- Maximum discharge during year, 7,050 second-feet Mar. 15 (gage height, 10.65 feet); minimum, 7.4 second-feet Aug. 24 (gage height, 1.66 feet).

1909-33: Maximum discharge (estimated), 25,200 second-feet Mar. 26, 1913 (gage height 18.1 feet); minimum, 6.5 second-feet Sept. 22, 1932 (gage height, 1.63 feet).

REMARKS.- Records good except those for low stages, which are fair, and those estimated for periods of ice effect, Dec. 13-22, Feb. 6-14, which are poor. Discharge estimated for period of missing gage height record, June 10-12. Some regulation at low stages from mill operations upstream.

AVERAGE DISCHARGE.- 23 years (1910-33), 709 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	96	75	1,770	562	1,110	1,770	403	339	53	30	14
2	20	136	76	1,110	591	892	1,940	358	266	68	23	17
3	19	142	73	1,180	591	672	1,880	390	211	69	43	24
4	18	103	73	1,240	448	591	1,770	432	211	103	35	19
5	21	71	76	1,180	336	548	1,640	386	629	90	38	25
6	25	52	75	952	310	489	1,990	424	435	71	40	53
7	22	45	80	778	340	506	2,640	579	277	55	38	57
8	21	45	95	666	1,000	1,420	2,220	618	205	44	40	31
9	20	50	117	572	1,100	2,380	1,880	770	170	40	38	20
10	17	74	134	507	700	1,660	1,600	845	140	35	30	14
11	22	162	96	454	550	1,270	1,890	770	120	34	23	12
12	20	173	112	400	450	1,240	4,560	696	100	30	20	13
13	19	144	95	275	400	1,540	3,900	627	85	25	15	14
14	18	119	85	273	380	5,680	2,640	622	73	25	16	24
15	21	99	70	257	372	6,900	1,980	503	69	39	14	16
16	19	95	55	200	356	4,810	2,130	436	71	26	14	19
17	20	119	45	199	338	2,690	2,550	386	158	23	12	16
18	17	185	40	193	316	1,910	1,980	347	244	18	13	17
19	23	334	37	236	313	2,460	1,940	309	144	17	11	17
20	23	733	35	376	574	2,640	2,140	277	105	18	8.6	19
21	23	536	35	384	1,010	3,190	1,800	256	81	15	12	17
22	23	353	37	429	820	2,730	1,540	243	66	25	11	18
23	23	271	59	874	805	2,060	1,340	202	55	20	8.2	20
24	23	230	329	805	778	1,740	1,070	296	46	15	10	26
25	21	208	1,050	661	1,240	1,500	845	3,030	46	12	15	24
26	32	182	812	666	2,060	1,310	745	2,070	49	16	16	34
27	32	150	591	855	1,400	1,220	676	1,640	81	18	15	50
28	49	110	520	1,180	1,210	1,500	588	1,340	64	14	13	35
29	59	97	429	952		1,570	508	850	66	15	12	24
30	54	103	363	623		1,540	441	632	69	15	16	25
31	48		1,480	528		1,570		449		19	15	
Month		Maximum	Minimum	Mean	Per square mile	Run-off in inches						
October		59	17	25.6	0.042	0.05						
November		733	45	174	.286	.32						
December		1,480	35	234	.385	.44						
January		1,770	193	670	1.10	1.27						
February		2,060	310	691	1.14	1.19						
March		6,900	489	1,980	3.26	3.76						
April		4,560	441	1,820	2.99	3.34						
May		3,030	202	683	1.12	1.29						
June		629	46	156	.257	.29						
July		103	12	34.4	.057	.07						
August		43	8.2	20.8	.034	.04						
September		57	12	23.8	.039	.04						
The year		6,900	8.2	541	.890	12.10						



## Shenango River at New Castle

LOCATION.- Chain gage at West Washington Street Bridge at New Castle, Lawrence County.  
Zero of gage is 787.00 feet above mean sea level.

DRAINAGE AREA.- 792 square miles (revised).

RECORDS AVAILABLE.- January 1910 to September 1933.

EXTREMES.- Maximum discharge during year, 8,800 second-feet Mar. 15 (gage height, 8.48 feet);  
minimum, 7.6 second-feet Aug. 26, 31 (gage height, 0.38 foot).

1910-33: Maximum discharge (estimated), 39,800 second-feet Mar. 26, 1913 (gage height, 17.82 feet); minimum, 6.0 second-feet Aug. 14, 1930.

REMARKS.- Records good except those for low stages and those estimated for periods of ice effect, Dec. 13-23, Feb. 5-7, 11-15, and for periods of missing gage height record, Apr. 9, May 17 to June 18, June 29 to July 23, which are poor. Some regulation at low stages from power and diversion operations upstream. Water supply for city of New Castle diverted above station not included in records except in part of monthly table. Record of monthly diversion furnished by The City of New Castle Water Co.

AVERAGE DISCHARGE.- 23 years (1910-33), 899 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	91	138	2,500	663	1,240	2,070	436			18	12
2	21	159	112	1,540	696	1,020	2,400	436			21	11
3	18	181	97	1,150	663	806	2,400	407			18	18
4	19	196	103	1,240	568	568	2,180	465			21	14
5	24	166	100	1,240	450	538	2,630	465	390	80	28	34
6	25	91	106	1,150	400	568	2,070	465			29	24
7	25	89	128	928	450	538	3,530	590			29	20
8	26	72	109	730	757	1,280	2,880	694			25	39
9	26	57	135	663	1,440	2,930	2,300	885			37	50
10	20	106	152	599	802	2,510	1,960	1,930			46	38
11	21	138	121	538	600	1,540	1,740	1,960			35	28
12	25	212	128	452	500	1,340	5,170	885			25	20
13	35	232	110	452	450	1,520	5,820	768			26	19
14	26	200	90	289	420	5,270	4,050	768	150		20	20
15	24	159	80	321	410	8,480	2,760	730			16	18
16	29	166	67	275	403	7,740	1,960	768			14	26
17	32	181	57	241	403	4,940	3,180				12	28
18	24	185	52	241	376	2,880	2,880				11	22
19	25	333	49	293	371	2,880	2,510		221	25	16	18
20	27	728	48	398	480	3,920	2,880		390	144	15	23
21	25	805	48	509	1,020	4,330	2,510		130		11	28
22	22	538	49	599	928	4,050	2,400		130		10	25
23	30	398	55	845	805	3,010	1,740		130		10	31
24	24	346	436	1,020	845	2,290	1,340		35	30	9.3	18
25	22	280	923	805	928	1,850	1,060		27	26	9.3	26
26	28	236	1,100	730	1,250	1,540	845	2,800	20	25	7.9	30
27	41	208	768	845	2,070	1,540	768		35	26	9.0	36
28	49	188	631	1,340	1,240	1,960	658		59	22	12	34
29	46	148	568	1,150		2,070	558		84	23	9.7	46
30	67	141	582	885		1,850	465	900		20	9.3	26
31	61	1,190	538			1,740				26	8.2	
Month	Observed			Diversion		Corrected for diversion						
	Maximum	Minimum	Mean	(Mean)		Mean	Per square mile	Run-off in inches				
October.....	67	18	29.3	6.43		35.7	0.045	0.05				
November.....	805	57	234	6.48		240	.303	.34				
December.....	1,190	48	269	6.82		276	.348	.40				
January.....	2,500	241	791	6.30		797	1.01	1.16				
February.....	2,070	371	728	6.12		734	.927	.97				
March.....	8,480	538	2,540	6.19		2,560	3.22	3.71				
April.....	5,920	465	2,320	6.22		2,330	2.94	3.28				
May.....			957	6.31		963	1.22	1.41				
June.....		20	207	7.46		211	.266	.30				
July.....			39.9	8.13		49.0	.061	.07				
August.....	46	7.9	18.3	7.87		26.2	.033	.04				
September.....	50	11	26.1	7.14		33.2	.042	.05				
The year.....	8,480	7.9	680	6.80		687	.867	11.78				

## Little Shenango River at Greenville

LOCATION.- Staff gage at Columbia Avenue Bridge at Greenville, Mercer County. Zero of gage is 944.50 feet above mean sea level.

DRAINAGE AREA.- 105 square miles (revised).

RECORDS AVAILABLE.- January 1914 to August 1923; November 1925 to September 1933.

EXTREMES.- Maximum discharge during year, 2,420 second-feet Mar. 14 (gage height, 5.86 feet);  
minimum, 5.2 second-feet Aug. 22, 23, Aug. 30 to Sept. 2 (gage height, 0.96 foot).

1914-23, 1925-33: Maximum discharge, 3,220 second-feet Dec. 1, 1927, May 3, 1929;  
maximum gage height, 9.60 feet Feb. 26, 1926 (affected by ice); minimum discharge, 2.0 second-feet Aug. 21, 1923 (gage height, 0.91 foot).

REMARKS.- Records good except those for low stages, which are fair, and those estimated for periods of ice effect, Dec. 12-23, Feb. 5-7, 9-20, which are poor. Some regulation at low stages from power operations upstream.

AVERAGE DISCHARGE.- 13 years (1914-18, 1920-22, 1926-33), 143 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.6	32	44	412	85	131	376	69	89	14	5.9	5.2
2	8.9	103	41	200	157	131	462	67	71	13	8.5	5.4
3	6.3	56	30	152	124	105	418	147	69	54	7.6	9.6
4	12	47	54	129	94	100	376	107	51	24	26	8.5
5	10	44	34	185	75	77	281	79	98	17	12	8.1
6	13	40	44	152	70	69	528	98	83	17	11	7.6
7	16	28	47	112	75	88	581	129	69	12	7.4	7.4
8	7.4	44	67	92	548	530	397	121	81	12	7.1	6.5
9	6.9	44	56	87	300	658	247	200	73	18	8.9	5.9
10	6.1	40	40	77	150	322	215	171	47	10	8.5	5.5
11	5.9	112	31	77	90	185	201	136	35	8.9	11	5.7
12	11	105	30	71	70	154	1,190	129	30	8.5	8.1	5.9
13	12	77	28	75	66	680	640	105	24	8.1	7.4	5.9
14	8.5	65	26	54	70	2,190	281	105	22	7.6	6.3	7.6
15	8.9	56	24	44	70	1,440	215	96	22	7.6	6.7	9.2
16	7.6	58	21	49	68	637	299	81	22	7.6	7.4	8.9
17	7.4	151	19	59	68	336	397	85	35	7.6	7.6	7.6
18	8.9	117	18	58	72	256	264	71	35	7.6	6.3	6.5
19	11	144	18	112	95	444	376	60	25	7.6	5.9	5.9
20	11	306	18	121	300	508	397	52	17	7.6	6.3	5.5
21	9.2	192	21	85	247	700	281	87	17	7.6	6.3	8.5
22	8.1	121	24	117	171	532	171	73	16	8.1	5.5	15
23	11	105	32	231	171	317	141	58	16	7.6	5.2	20
24	10	89	368	139	147	231	134	245	17	15	5.7	19
25	8.5	83	336	107	396	185	117	970	17	13	6.5	9.6
26	14	81	171	107	685	171	94	299	20	9.6	5.7	8.1
27	79	63	105	200	314	171	85	440	18	8.9	5.5	7.6
28	63	60	92	247	157	303	85	264	18	8.9	5.5	6.7
29	47	52	79	141		299	79	247	14	7.9	5.5	8.1
30	32	51	69	129		336	71	147	14	7.6	5.2	6.9
31	20		664	94		299		119		7.1	5.2	
Month		Maximum	Minimum	Mean	Per square mile	Run-off in inches						
October.....		79	5.9	15.8	0.150	0.17						
November.....		306	28	85.5	.814	.91						
December.....		664	18	85.5	.814	.94						
January.....		412	44	126	1.20	1.38						
February.....		685	66	176	1.68	1.75						
March.....		2,190	69	406	3.87	4.46						
April.....		1,190	71	313	2.98	3.32						
May.....		970	52	163	1.55	1.79						
June.....		98	14	38.8	.370	.41						
July.....		54	7.1	12.0	.114	.13						
August.....		26	5.2	7.67	.073	.08						
September.....		20	5.2	8.26	.079	.09						
The year.....		2,190	5.2	119	1.13	15.43						



Pymatuning Creek near Orangeville

LOCATION.- Chain gage at highway bridge 1-3/4 miles upstream from confluence with Shenango River, 3 miles southeast of Orangeville, Mercer County, and 3 miles north of Sharpsville.

DRAINAGE AREA.- 169 square miles (revised).

RECORDS AVAILABLE.- January 1914 to August 1923; November 1925 to September 1933.

EXTREMES.- Maximum discharge during year, about 2,980 second-foot Mar. 15 (gage height, 7.7 feet from graph based on gage readings); minimum 0.5 second-foot Sept. 25 (gage height, 0.44 foot).

1914-23, 1925-33: Maximum gage height (estimated), 8.9 feet Mar. 13, 1920 (discharge not determined); minimum discharge, that of Sept. 25, 1933.

Maximum stage known, about 15.8 feet during flood of Mar. 26, 1913 (discharge not determined).

REMARKS.- Records poor. Discharge estimated for periods of ice effect, Nov. 27 to Dec. 2, Dec. 9-25, Feb. 5-7, 9-21, Mar. 10-13. Diurnal regulation from operation of mills upstream.

AVERAGE DISCHARGE.- 15 years (1914-22, 1926-33), 212 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.6	57	10	386	102	414	359	43	58	10	6.3	3.6
2	4.4	48	10	400	100	248	372	40	42	17	8.4	3.3
3	4.4	28	14	565	100	148	414	58	33	24	12	5.4
4	3.6	22	16	534	86	97	473	80	29	20	19	5.9
5	5.1	13	14	414	65	88	443	83	70	15	22	44
6	5.9	1.9	17	215	45	76	704	93	70	12	26	50
7	4.4	1.2	20	172	50	70	712	113	51	9.4	32	28
8	3.6	1.4	24	130	214	317	798	130	35	7.4	29	16
9	3.6	1.9	25	102	200	622	695	191	26	6.3	20	7.9
10	3.6	8.4	22	86	100	450	534	237	22	5.4	12	5.4
11	4.4	13	21	68	60	400	443	237	17	4.4	9.4	4.4
12	3.6	21	21	55	40	450	1,130	182	14	4.0	7.4	4.0
13	3.6	25	19	48	40	600	1,730	150	11	4.4	5.4	3.3
14	2.6	26	15	44	45	1,980	1,260	134	8.9	3.6	5.4	6.3
15	2.6	20	12	46	45	2,690	764	121	8.9	5.1	5.1	7.4
16	2.6	19	10	31	43	2,350	746	99	10	4.7	3.6	5.4
17	3.3	25	8	24	45	1,340	662	81	23	4.4	3.6	5.4
18	4.7	33	7.5	29	50	834	629	73	26	4.4	3.6	4.0
19	4.0	54	7	51	55	871	662	64	29	4.4	3.6	3.6
20	5.4	102	7	85	110	695	629	56	23	3.6	3.6	.7
21	5.4	106	7.5	100	180	910	534	44	15	4.0	3.3	1.2
22	5.4	97	9	146	193	798	473	35	9.4	4.7	3.6	.7
23	6.3	85	15	215	193	695	333	31	7.4	5.4	3.6	.7
24	6.3	61	95	237	172	565	204	281	5.4	10	4.7	.6
25	5.4	49	170	204	372	359	117	834	6.3	7.4	4.0	.7
26	7.4	35	185	191	473	215	92	695	10	6.3	3.6	34
27	9.4	30	193	215	443	187	76	597	7.4	7.4	2.9	18
28	8.4	20	191	284	473	296	67	473	6.8	6.3	3.3	11
29	7.4	15	187	248		346	58	272	9.4	7.4	4.4	8.4
30	14	11	141	176		359	49	166	8.4	6.3	3.6	7.4
31	19		367	140		359		83		5.9	3.3	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					19	2.6	5.59	0.033		0.04		
November.....					106	1.2	34.3	.203		.23		
December.....					367	7.0	60.0	.355		.41		
January.....					565	24	182	1.08		1.24		
February.....					473	40	146	.864		.90		
March.....					2,690	70	640	3.79		4.37		
April.....					1,730	49	539	3.19		3.56		
May.....					834	31	186	1.10		1.27		
June.....					70	5.4	23.1	.137		.15		
July.....					24	3.6	7.76	.046		.05		
August.....					32	2.9	8.96	.053		.06		
September.....					50	0.6	9.89	.059		.07		
The year.....					2,690	0.6	154	.911		12.35		

## Connoquenessing Creek at Hazen

LOCATION.- Chain gage at highway bridge at Hazen, Beaver County, half a mile upstream from mouth of Brush Creek.

DRAINAGE AREA.- 356 square miles (revised).

RECORDS AVAILABLE.- June 1915 to September 1933.

EXTREMES.- Maximum discharge during year, about 10,600 second-feet Mar. 15 (gage height, 13.1 feet from graph based on gage readings); minimum, 8.6 second-feet Oct. 4, 5, 11-14 (gage height, 0.89 foot).

1915-33: Maximum gage height, 16.66 feet June 29, 1924 (discharge not determined); minimum discharge, 6.6 second-feet Sept. 12, 1932 (gage height, 0.84 foot).

REMARKS.- Records poor. Discharge estimated for periods of ice effect, Nov. 29 to Dec. 4, Dec. 9-23, Jan. 14-17, Feb. 5-20, and for days of missing gage-height record, Oct. 30, Nov. 9, Sept. 24. Some regulation from mill operations upstream.

AVERAGE DISCHARGE.- 14 years (1919-33), 493 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	59	68	880	396	507	863	210	507	32	14	14
2	11	174	67	596	450	417	930	218	370	37	21	16
3	10	85	66	536	406	351	965	233	313	163	20	23
4	9.0	49	68	507	304	309	965	207	291	110	40	40
5	9.5	42	69	478	270	287	791	174	356	63	40	63
6	22	38	70	422	250	222	965	245	291	42	28	46
7	46	39	67	365	300	310	1,450	807	226	31	22	31
8	29	36	74	313	600	791	1,140	960	470	27	20	22
9	22	43	70	282	400	930	895	1,370	438	25	18	19
10	15	276	60	253	300	659	758	1,300	258	23	34	16
11	9.5	327	57	226	240	478	678	1,140	192	22	27	13
12	9.0	212	57	196	220	412	3,500	965	145	22	24	14
13	8.6	133	52	142	220	866	2,060	1,030	114	21	24	19
14	9.0	85	48	120	230	7,070	1,370	2,330	97	18	38	25
15	10	78	45	110	240	9,450	965	1,690	85	16	32	27
16	16	83	42	110	230	4,790	1,220	1,220	77	18	29	26
17	15	255	41	120	230	2,190	1,450	895	133	22	24	21
18	18	85	40	133	240	1,940	1,140	659	185	37	22	16
19	49	1,030	40	199	260	2,190	1,350	507	85	26	20	12
20	32	1,380	40	375	350	2,100	2,030	450	70	22	14	15
21	24	725	42	304	406	3,160	1,370	450	58	20	12	22
22	20	402	50	604	341	2,800	1,070	322	45	17	12	22
23	17	274	100	1,320	341	1,940	860	270	37	17	11	21
24	14	229	1,880	692	346	1,220	596	536	36	16	12	22
25	15	199	1,460	566	514	930	507	1,280	121	16	12	20
26	18	168	828	758	1,150	860	507	692	96	16	12	21
27	26	128	507	628	758	791	396	826	54	16	17	19
28	37	93	386	626	596	1,220	351	791	43	14	12	20
29	33	75	336	566		930	258	1,040	37	15	12	22
30	30	70	430	450		826	229	895	36	16	12	20
31	30		1,540	396		758		724		13	14	
Month					Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October					49	8.5	20.3	0.067	0.07			
November					1,380	36	229	.643	.72			
December					1,880	40	281	.789	.91			
January					1,320	110	435	1.22	1.41			
February					1,150	220	378	1.06	1.10			



## Slippery Rock Creek at Wurttemberg

LOCATION.- Chain gage at highway bridge at Wurttemberg, Lawrence County, 1 mile upstream from mouth. Zero of gage is 812.48 feet above mean sea level.

DRAINAGE AREA.- 406 square miles (revised).

RECORDS AVAILABLE.- October 1922 to September 1933. January 1912 to September 1922 at a site half a mile upstream.

EXTREMES.- Maximum discharge during year not determined; minimum, 26 second-feet Aug. 22 (gage height, 2.09 feet).

1912-33: Maximum gage height (estimated), 11.8 feet Dec. 14, 1927 (discharge not determined); minimum discharge, 11 second-feet Sept. 8, 1925.

REMARKS.- Records fair except those estimated for period of ice effect, Dec. 12-22, which are poor. No records obtained for period Jan. 4 to July 21 owing to bridge construction. Regulation from power operations upstream.

AVERAGE DISCHARGE.- 20 years (1912-32), 562 second-feet.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	63	151	145	720							46	37
2	52	266	118	647							45	35
3	44	257	108	453							42	37
4	52	165	116								55	50
5	46	131	102								64	85
6	52	116	134								56	53
7	88	111	217								50	64
8	94	116	171								62	47
9	80	124	153								125	38
10	55	153	131								62	34
11	46	373	114								70	34
12	41	350	100								58	35
13	49	261	90								49	44
14	57	217	80								64	46
15	55	162	70								53	36
16	80	240	61								45	50
17	48	372	60								31	47
18	63	364	60								34	55
19	52	1,010	63								35	34
20	69	1,360	70								33	40
21	97	758	83								33	37
22	69	546	110							47	29	58
23	62	372	303							45	32	58
24	63	302	1,560							45	31	50
25	59	254	1,850							42	33	68
26	60	223	1,180							46	35	52
27	93	207	684							50	36	50
28	114	184	546							56	42	66
29	108	168	453							38	37	50
30	102	153	482							37	37	46
31	97	1,240								47	34	
Month				Maximum	Minimum	Mean	Per square mile	Run-off in inches				
October.....				114	41	67.7	0.167	0.19				
November.....				1,360	111	316	.778	.87				
December.....				1,850	60	344	.947	.98				
January..... 1-3				720	453	607	1.50	.17				
February.....												
March.....												
April.....												
May.....												
June.....												
July..... 22-31				56	37	45.3	.112	.04				
August.....				125	29	47.0	.116	.13				
September.....				85	34	47.9	.118	.13				
The year.....												

## Miscellaneous Discharge Measurements

Stream	Location	Date	Gage height	Discharge	Drainage area	Per square mile
Delaware River Basin	At highway bridge 1-3/4 miles south of Shohola.....	Oct. 5	0.99	3.89	82.0	0.047
Shohola Creek.....	280 ft. upstream from highway bridge between Stroudsburg and East Stroudsburg.....	Oct. 7	.....	16.0	145.	.113
Brookheads Creek.....	1/2 mile above junction with Marshall's Creek near Stroudsburg.....	Oct. 1	.....	49.9	261.	.199
McMichael's Creek.....	2,880 ft. upstream from junction with Pocono Creek at Stroudsburg.....	Oct. 1	.....	9.76	61.8	.158
Pocono Creek.....	0.48 mile above mouth at Stroudsburg.....	Oct. 1	.....	7.50	42.0	.179
Marshall's Creek.....	1,000 ft. above junction with Brookheads Creek near Stroudsburg.....	Oct. 1	.....	4.04	38.7	.120
Martins Creek.....	580 ft. upstream from junction with Little Martins Creek at Martins Creek.....	Oct. 1	.....	2.47	39.4	.063
do.....	100 ft. downstream from junction with Little Martins Creek at Martins Creek.....	Oct. 3	.....	3.80	45.7	.083
Bushkill Creek.....	5 miles above Front Street Bridge at Easton.....	Oct. 3	.....	2.41	47.3	.061
Lehigh River.....	100 ft. upstream from concrete highway bridge, Stoddardsville.....	Oct. 2	.....	16.9	76.4	.221
Lackawanna River.....	100 ft. below highway bridge near Ferrisburg.....	Oct. 2	.....	22.2	77.1	.286
Funcheon Creek.....	300 ft. above mouth near Ferrisburg.....	Oct. 2	.....	13.1	50.1	.261
Pocono Creek.....	1.4 miles above mouth near Weisport.....	Oct. 2	.....	25.3	106.	.241
Aquashicola Creek.....	1.0 mile above mouth at Falmerton.....	Oct. 2	.....	18.7	80.3	.233
Little Lehigh Creek.....	1.0 mile above mouth at Allentown.....	Oct. 2	.....	25.6	82.2	.311
Jordan Creek.....	2.0 miles above mouth near Allentown.....	Oct. 3	.....	2.56	79.9	.038
Delaware Canal.....	At Durham Furnace Bridge near Kintnersville.....	Oct. 7	.....	90.9	.....	.088
do.....	3/4 mile below junction with Hockley Creek near Ottsville.....	Oct. 4	.....	2.07	74.5	.028
Delaware River Feeder Canal.....	At New Hope.....	Oct. 7	.....	9.02	.....	.018
Neshaminy Creek.....	1/2 mile upstream from junction with Little Neshaminy Creek at Rushland.....	Oct. 4	.....	1.64	92.7	.018
Fennypack Creek.....	4,000 ft. above mouth at Rushland.....	Oct. 4	.....	.75	42.7	.018
Schuylkill River.....	75 ft. downstream from highway bridge at Alnwick.....	Oct. 5	.....	16.6	24.7	.688
French Creek.....	At Norristown.....	Aug. 17	1.23	1,660	1,780.	.938
Schuylkill Canal.....	At Norristown.....	Aug. 18	1.94	8.97	10.9	.639
Wissahickon Creek.....	1.2 miles above mouth at Philadelphia.....	Oct. 17	1.72	1.03	.....	.588
Darby Creek.....	0.8 mile downstream from junction with Whetstone Run near Addingham.....	Oct. 5	.....	37.2	63.3	.588
Susquehanna River Basin	At highway bridge at Kocsic.....	May 22	2.18	178.	265.	.672
Lackawanna River.....	At highway bridge at Bloomsburg.....	Oct. 6	2.45	316.	265.	1.19
Fishing Creek.....	do.....	Oct. 7	9.54	5,390.	15.2	15.2
do.....	do.....	Oct. 7	7.19	2,860.	355.	8.03
do.....	do.....	Oct. 19	3.78	453.	355.	1.28
North Bald Eagle Creek.....	At railroad bridge at Milesburg.....	May 24	4.11	676.	355.	1.90
do.....	do.....	Apr. 3	1.86ch	355.	140.	2.54
Armstrong Creek.....	5 1/2 miles northeast of Fisherville at Macklert's Valley.....	May 18	2.39st	239.	140.	1.71
Deep Hollow Branch.....	do.....	Aug. 29	1.28st	205.	140.	1.46
Prices Spring.....	At Huntingdon.....	June 26	.....	.35	.....	.....
do.....	do.....	Dec. 5	.....	1.41	.....	.....
Upper Little Swatara Creek.....	At highway bridge 3/4 mile southeast of Pine Grove.....	Feb. 16	.....	1.18	.....	.....
do.....	do.....	Oct. 18	2.56	133.	34.3	3.88
do.....	do.....	Dec. 3	1.68	35.9	34.3	.988
do.....	do.....	Jan. 31	1.68	35.6	34.3	.977
do.....	do.....	Mar. 14	1.78	36.3	34.3	1.15
do.....	do.....	Apr. 18	2.47	126.	34.3	3.67
do.....	do.....	Apr. 18	4.10	572.	34.3	16.7
do.....	do.....	Apr. 18	4.02	552.	34.3	16.1



Stream	Location	Date	Gage height	Discharge	Drainage area	Per square mile
Susquehanna River Basin Cont.	At highway bridge 3/4 mile southeast of Pine Grove.....	Apr. 18	5.77	465.	34.3	13.8
Upper Little Swatara Creek...	do.....	July 15	1.48	16.9	34.3	.493
do.....	do.....	Aug. 10	1.47	15.8	34.3	.461
do.....	do.....	23	6.06	1,130.	34.3	32.9
do.....	do.....	24	7.00	1,870.	34.3	54.5
do.....	do.....	25	4.17	435.	34.3	12.7
do.....	do.....	Oct. 21	2.02	176.	322.	.547
Conestoga Creek.....	At Pennsylvania railroad bridge at Lancaster.....	May 1	3.30	587.	322.	1.82
do.....	do.....	July 12	2.35	208.	322.	.649
do.....	do.....	Aug. 9	2.57	261.	322.	.811
do.....	do.....	23	5.15	1,900.	322.	5.90
do.....	do.....	Sept. 11	3.17	448.	322.	1.39
Ohio River Basin	At highway bridge at Nebraska.....	Jan. 5	2.72	759.	481.	1.68
Tionesta Creek.....	do.....	June 7	3.16	1,100.	481.	2.39
do.....	do.....	8	6.18	3,660	481.	7.61
do.....	do.....	July 28	.58	63.5	461.	.132
do.....	do.....	Apr. 5	....	42.1	16.1	2.61
Cherrytree Run.....	At highway bridge at mouth near Roushville.....	Oct. 12	....	.65	92.2	.007
Cussewago Creek.....	At highway bridge at mouth at Meadville.....	Nov. 4	1.54	22.0	166.	.133
Sugar Creek.....	At highway bridge 3/4 mile north of mouth at Sugar Creek.....	Jan. 4	1.89	57.0	166.	.543
do.....	do.....	Apr. 4	2.40	186.	166.	1.12
do.....	do.....	Apr. 5	2.83	417.	166.	2.81
do.....	do.....	June 3	2.09	108.	166.	.651
do.....	do.....	July 25	1.65	35.8	166.	.216
do.....	do.....	Nov. 2	....	62.6	951.	leakage
Clarion River.....	Just below Clarion River Power Company's plant near Piney.....	Nov. 3	....	63.4	951.	do
do.....	do.....	June 2	....	1,090.	953.	regulated
do.....	At highway bridge at Piney.....	Nov. 1	....	1,430.	953.	do
do.....	do.....	2	....	1,470.	953.	do
do.....	do.....	May 29	....	4,220.	953.	do
do.....	do.....	Oct. 9	....	90.2	1,080.	.088
do.....	1000 ft. below mouth of Piney Creek at Piney.....	9	....	8.3	69.8	.119
Piney Creek.....	At highway bridge at Piney.....	Nov. 1	....	94.3	89.8	1.35
do.....	do.....	May 29	....	175.	69.8	2.51
do.....	do.....	Jan. 7	5.68	2,090.	1,830.	1.14
Kiskiminitas River.....	At highway bridge at Vandegrift.....	May 26	9.07	5,890.	1,830.	3.05
do.....	do.....	Sept. 23	3.57	5,629.	1,830.	.344
do.....	do.....	Sept. 22	....	5.2	.....	.....
do.....	300 ft. below highway bridge, 1 mile south of Somersett.....	Oct. 18	....	4.62	.....	.....
do.....	do.....	24	....	.....	.....	.....
do.....	do.....	Oct. 18	.26	.....	160.	.005
do.....	At highway bridge, 1 mile southwest of Jefferson.....	18	.86	1.1	180.	.006
South Fork of Nemille Creek...	do.....	Jan. 8	1.55	104.	180.	.578
do.....	do.....	June 23	.51	4.3	180.	.097
do.....	do.....	23	.82	4.7	180.	.056
do.....	do.....	Aug. 15	.68	10.6	180.	.089
do.....	do.....	Sept. 25	.32	7.2	180.	.040
do.....	do.....	26	.52	7.1	180.	.039

Stream	Location	Date	Gage height	Discharge	Drainage area	Per square mile
Ohio River Basin Cont. Neshannock Creek .....	800 ft. above mouth of Little Neshannock Creek near Neshannock Falls.....	Oct. 14	.....	7.7	.....	.....
do.....	800 ft. above mouth at New Castle.....	14	.....	34.6	244.	.142



Summary of run-off in second-feet per square mile, run-off depth in inches, precipitation, and per cent run-off to precipitation, for the year ending Sept. 30, 1933

**Delaware Basin**

Station	Drain- age area	Run-off in second-feet per square mile												Run- off	Pre- cipi- tation	Per cent		
		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.				Year	Depth in inches
	Square miles																	
Delaware River at Port Jervis, N.Y. . . .	3,070.															27.69	50.24	56.1
Delaware River at Belvidere, N. J. . . .	4,640.	1.91	3.88	1.08	1.52	1.59	3.06	4.49	1.71	0.590	0.350	2.56	3.11	2.04	28.50	53.45	53.5	
Delaware River at Riegelsville . . . . .	5,340.	1.86	3.82	1.17	1.52	1.61	3.23	4.65	1.66	.746	.453	2.67	3.42	2.10	30.03	55.85	53.2	
Delaware River at Trenton, N. J. . . . .	5,800.	1.50	3.01	1.26	1.51	1.63	3.19	4.54	1.80	.754	.509	2.67	3.32	2.22	30.14	56.45	53.5	
Lackawanna River at West Hawley . . . .	212.	1.740	3.22	1.34	1.49	1.84	3.08	4.60	1.15	1.07	.336	2.38	2.36	1.89	28.61	54.27	47.2	
Wallenpaupack Creek at Wilsonville . . .	227.	1.49	3.28	1.33	1.56	1.85	3.16	4.08	1.00	-.004	.183	3.58	2.69	1.95	28.45	55.08	48.0	
Shuylkill Creek at Shoemakers . . . . .	115.	2.09	3.59	1.65	1.83	1.99	3.63	4.68	1.75	.580	.253	2.36	4.77	2.55	34.63	58.94	58.8	
McMichaels Creek at Stroudsburg . . . . .	82.0	1.17	3.48	1.57	1.83	2.11	4.00	4.66	1.67	.686	.568	3.31	6.94	2.84	38.53	64.50	59.7	
Lehigh River at Tannery . . . . .	322.	1.47	3.16	1.57	1.80	1.80	3.14	4.22	2.12	1.09	.720	4.56	4.75	2.57	34.90	55.78	62.6	
Lehigh River at Bethlehem . . . . .	1,290.	1.11	3.87	1.34	1.48	1.84	3.11	3.76	2.19	1.16	.930	4.51	5.01	2.54	34.48	61.92	55.7	
Neshaminy Creek at Bethlehem . . . . .	155.	1.37	3.76	1.40	1.48	1.86	3.38	4.58	2.66	1.30	1.40	4.52	2.71	2.44	33.03	61.22	54.0	
Schuylkill River at Pottstown . . . . .	1,170.	1.08	3.21	1.51	1.86	1.81	3.58	4.98	2.49	1.07	1.16	4.34	2.45	2.29	31.98	61.71	59.6	
Schuylkill River at Philadelphia . . . . .	1,900.	.921	3.38	1.25	1.80	2.06	3.56	5.20	2.86	1.22	1.72	5.98	6.09	3.07	41.91	70.27	59.6	
Little Schuylkill River at Tamama . . . .	44.0	1.40	4.64	1.08	1.22	1.84	3.49	3.41	2.28	1.12	1.15	3.27	2.90	2.11	28.67	62.77	45.7	
Perkerson Creek at Graters Ford . . . . .	280.	.758	4.11	1.47	1.86	2.06	3.55	5.20	2.92	1.53	1.08	3.69	1.58	3.01	28.67	63.56	37.8	
Grum Creek at Woodlyn . . . . .	34.0	.641	.903	1.53	1.42	1.82	2.41	3.41	2.10	1.11	1.17	3.71	2.05	1.77	24.02	63.56	37.8	
Stidley Creek at Moylan . . . . .	32.4	.623	2.08	1.08	1.19	1.80	2.61	2.72	2.10	1.11	1.17	3.27	1.90	1.74	23.67	66.63	35.5	
Chester Creek near Chester . . . . .	61.4	.607	2.08	1.05	1.15	1.82	2.61	2.72	2.10	1.11	1.17	3.27	1.90	1.74	23.67	66.63	35.5	
White Clay Creek near Newark, Del. . . .	97.8	.487	1.77	.875	1.05	1.35	2.04	2.63	1.78	.909	1.12	2.85	1.61	1.63	22.12	65.74	33.6	
Mill Creek at Stanton, Del. . . . .	12.3	.441	1.40	.870	1.07	1.37	2.04	2.63	1.58	.786	1.67	3.34	1.41	1.58	22.14	59.92	35.5	
Brandywine Creek at Chadds Ford . . . . .	285.	.589	1.97	1.01	1.11	1.35	2.04	2.63	1.51	1.12	1.17	4.39	2.03	1.30	27.65	64.28	37.5	
Leipsic River near Cheswold, Del. . . . .	9.21	.568	1.53	1.26	1.51	1.85	2.74	1.86	1.51	.846	.615	3.02	1.53	1.52	20.62	58.99	35.0	
Murderkill River near Felton, Del. . . . .	14.4	.383	1.46	1.28	2.42	2.49	1.54	1.92	1.96	.861	.701	3.43	1.15	1.61	21.69	55.66	39.3	

Summary of run-off in second-feet per square mile, run-off depth in inches, precipitation, and per cent run-off to precipitation, for the year ending Sept. 30, 1933

**Susquehanna Basin**

Station	Drainage area	Run-off in second-feet per square mile												Run-off	Depth in inches	Precipitation	Per cent
		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.				
	Square miles																
North Branch Susquehanna River at Towanda .....	7,770.	1.18	2.36	0.616	0.780	0.524	2.52	3.32	1.06	0.373	0.202	0.947	1.07	1.26	16.90	41.72	40.5
North Branch Susquehanna River at Wilkes-Barre .....	9,960.	1.13	2.35	.612	.878	.617	2.52	3.36	1.13	.481	.255	1.22	1.45	1.34	18.09	43.04	42.0
North Branch Susquehanna River at Danville .....	11,200.	1.14	2.40	.602	.911	.679	2.62	3.47	1.17	.504	.273	1.34	1.64	1.40	19.02	44.41	42.3
Susquehanna River at Harrisburg .....	24,000.	.838	2.09	.676	1.12	.942	2.94	3.57	2.10	.938	.436	1.34	1.44	1.53	30.73	47.69	43.5
Susquehanna River at Marietta .....	25,990.	.846	2.05	.780	1.12	.986	2.86	3.45	2.07	.985	.436	1.34	1.44	1.54	30.71	48.78	42.9
Towanda Creek near Monroeton .....	218.	.866	2.45	.793	.807	.683	2.82	3.15	1.77	.477	.206	1.33	1.44	1.74	33.54	48.28	49.0
Tunkhannock Creek at Dixon .....	393.	.849	3.49	.700	1.25	1.01	2.80	3.92	1.893	.692	.236	1.92	2.65	1.75	33.71	49.39	47.5
Wapwallopen Creek near Wapwallopen .....	46.6	.924	2.14	.884	1.04	1.47	2.70	2.57	1.35	.533	1.13	3.24	3.48	1.78	34.19	58.30	41.5
West Branch Susquehanna River at Bower .....	315.	1.186	.749	.940	1.89	1.46	4.29	3.14	4.22	.644	.216	1.19	.877	1.61	20.53	48.82	43.3
West Branch Susquehanna River at Renovo .....	2,990.	1.175	1.31	.776	1.45	1.08	3.91	3.44	3.48	1.13	.405	.209	.216	1.46	19.86	46.76	43.4
West Branch Susquehanna River at Williamsport .....	5,870.	.235	1.63	.723	1.37	1.02	3.56	3.69	3.16	1.23	.490	.822	.966	1.58	21.38	45.89	46.3
Crawfield Creek at Dismal .....	570.	.175	.764	.773	1.75	1.84	4.03	2.95	4.43	.592	.384	.213	.256	1.48	30.07	50.53	39.7
Driftwood Branch Sinnemahoning Creek at Sterling Run .....	270.	.171	1.97	.900	1.49	.974	3.78	3.95	2.86	.793	.300	.088	.074	1.44	19.53	45.70	42.7
North Bald Eagle Creek at Beech Creek Station .....	565.	.418	1.55	.747	1.25	.973	3.29	3.13	2.37	1.13	.400	.609	.794	1.39	18.99	47.56	39.6
Pine Creek at Cedar Run .....	590.	.285	2.22	.744	1.08	.739	2.68	3.36	2.69	.597	.432	.683	.683	1.35	18.53	38.91	47.1
Lycamock Creek near Trout Run .....	185.	.611	2.97	.513	1.962	.735	2.72	3.37	2.19	.606	.741	2.40	3.10	1.78	34.22	49.26	49.2
Loyalsock Creek at Loyalsock .....	433.	1.44	2.66	.714	1.31	1.11	3.28	3.76	2.12	.988	.559	3.23	3.48	2.05	27.56	53.11	50.0
Penn Creek at Penna Creek .....	501.	.718	2.20	1.01	1.20	1.21	3.19	4.06	3.11	1.35	.432	1.87	.854	1.77	24.06	48.58	48.5
Mahantago Creek East near Dalmatia .....	162.	1.09	2.25	.691	.944	1.22	2.86	3.15	2.19	.664	.735	3.61	3.37	1.91	25.99	40.96	42.3
Frankstown Branch Juniata River at Williamsburg .....	395.	.261	1.12	.597	1.26	.969	3.66	3.19	4.10	.742	.420	.536	.468	1.45	19.66	50.43	39.0
Juniata River at Newport .....	3,390.	.497	1.71	.680	1.88	1.09	3.43	3.32	3.64	.994	.473	1.01	.787	1.62	21.92	51.20	42.9
Shaver Creek near Petersburg .....	46.2	.366	1.81	.844	1.32	1.21	3.58	3.78	3.92	.712	.491	.283	.242	1.53	21.93	50.64	41.5
Standing Stone Creek near Huntingdon .....	138.	.398	1.56	.844	1.20	1.07	3.02	3.64	3.89	1.12	.541	.992	.482	1.56	21.19	50.84	41.6
Raystown Branch Juniata River at Sarton .....	784.	.315	1.40	.531	1.13	.885	3.55	3.28	3.01	.914	.323	.367	.457	1.24	13.12	49.84	38.3
Dunning Creek at Yount .....	191.	1.83	1.16	.639	1.32	1.12	4.32	3.34	3.67	.791	.323	.265	.397	1.46	19.77	47.63	41.3
Burn Creek at Gapville .....	36.8	.558	2.37	.601	1.32	1.15	3.20	3.56	3.51	.699	.165	.294	.498	1.73	23.77	49.59	50.3
Great Trough Creek near Marielaburg .....	344.	.394	2.03	.638	1.01	.904	3.92	3.49	4.20	.648	.369	.369	.374	1.56	21.60	51.11	41.5
Aughwick Creek near Orbicula .....	174.	.551	3.71	.736	1.69	1.10	3.90	4.42	3.51	.598	.270	1.44	.897	1.31	24.62	50.76	46.5
Tuscarora Creek near Port Royal .....	205.	1.06	2.48	.683	1.53	1.18	3.20	3.99	3.70	.712	.600	1.77	1.13	1.86	26.27	47.17	44.2
Coolmans Creek near Millertown .....	55.8	2.08	2.90	1.00	1.64	1.41	3.35	3.66	3.50	.970	.351	2.57	2.01	2.10	28.56	74.35	44.0
Sherman Creek at Shermansdale .....	200.	1.53	3.89	.996	1.46	1.48	3.52	3.94	3.42	.910	.693	3.12	2.02	2.26	30.73	73.39	41.9
Conodoguinet Creek near Hogestown .....	470.	1.51	2.68	.940	1.17	1.14	2.62	3.64	2.43	.900	.668	2.32	2.43	1.68	33.56	64.33	39.5
Swata Creek at Harper Tavern .....	333.	1.16	3.38	.964	1.23	1.61	3.57	3.94	3.96	1.15	1.48	2.71	2.43	2.50	33.56	68.58	31.9
West Conemaugh Creek near Manchester .....	510.	1.54	3.00	1.07	1.00	1.30	2.51	3.34	1.77	.890	.598	3.82	1.34	1.93	36.27	61.56	42.9
Codorus Creek at Spring Grove .....	74.3	.861	1.83	.866	1.06	1.31	2.97	3.53	1.30	.384	.781	3.62	1.10	1.84	22.56	68.52	38.2
South Branch Codorus Creek near York .....	117.	.949	1.64	.889	1.14	1.56	2.12	3.53	2.54	1.36	1.36	3.96	1.46	1.93	26.19	62.50	41.9
Muddy Creek at Gastle Flia .....	133.	.887	1.43	.917	1.10	1.29	2.86	3.10	2.58	1.34	.962	3.94	1.51	1.91	23.09	67.61	40.1



Summary of run-off in second-feet per square mile, run-off depth in inches, precipitation, and per cent run-off to precipitation, for the year ending Sept. 30, 1933

## Ohio Basin

Station	Drain- age area Square miles	Run-off in second-feet per square mile												Run- off in inches	Pre- cipita- tion inches	Per cent off to precip- itation
		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Year		
Allegheny River at Larches .....	541.	0.169	2.00	0.282	1.21	0.919	3.18	3.38	3.18	1.04	0.468	0.346	0.227	1.42	19.26	40.78
Allegheny River at Parkers Landing .....	5,982.	.176	1.40	1.04	1.80	1.32	3.29	3.08	1.31	1.40	.288	.169	.207	1.32	17.92	41.29
Allegheny River at Parkers Landing .....	7,671.	.184	1.30	.958	1.54	1.29	3.35	3.09	1.33	1.33	.284	.176	.206	1.30	17.65	40.74
Brokenshaw Creek at Youngsville .....	304.	.247	1.60	1.26	1.34	1.34	3.17	2.89	1.09	1.08	.204	.136	.211	1.24	16.81	43.34
Oil Creek at Rouseville .....	300.	.219	1.55	1.08	1.24	1.49	3.40	2.94	1.29	1.66	.211	.166	.216	1.25	16.86	42.41
French Creek at Carters Corners .....	208.	.242	2.08	2.46	2.32	1.85	3.11	2.73	.990	.897	.139	.108	.280	1.45	19.67	40.80
French Creek at Stagertown .....	628.	.258	1.51	1.73	2.18	1.75	3.16	2.81	.887	.998	.120	.098	.237	1.31	17.73	38.26
French Creek at Utica .....	1,028.	.177	1.01	1.20	1.25	1.58	3.24	2.88	.776	.743	.116	.078	.159	1.15	15.55	37.54
Cussewago Creek near Meadville .....	980.2	.043	.710	1.21	2.13	2.06	2.93	2.88	.537	.221	.015	.020	.031	1.06	14.38	34.18
Clarion River near Finney .....	980.	.193	1.49	1.02	1.31	1.49	3.97	3.75	2.63	1.22	.220	.156	.129	1.44	20.07	38.58
Redbank Creek at Saint Charles .....	528.	.161	1.04	1.06	1.35	1.48	4.62	2.90	2.78	1.39	.419	.163	.124	1.44	19.55	40.89
Manoning Creek near Dayton .....	321.	.176	.991	1.51	1.80	1.46	4.98	3.95	5.45	.900	.255	.200	.233	1.82	24.72	44.63
Crooked Creek near Ford City .....	280.	.089	.721	1.11	1.70	1.98	5.36	2.65	2.86	1.04	.217	.053	.148	1.50	20.37	47.81
Kiskiminitas River at Avonmore .....	1,723.	.212	.679	.776	1.25	1.27	4.41	3.50	4.76	1.29	.351	.410	.514	1.71	23.37	49.62
Stony Creek at Johnstown .....	457.	.310	.758	.745	1.56	1.45	4.92	3.13	4.84	1.57	.578	.478	.533	1.74	23.63	49.05
Blacklick Creek at Blacklick .....	390.	.203	.769	.992	1.56	1.64	4.49	3.13	4.85	1.08	.245	.231	.326	1.64	22.39	47.63
Loyalhanna Creek at New Alexandria .....	268.	.106	.335	.830	1.57	1.54	5.74	3.55	4.87	1.11	.467	.516	.569	1.74	23.65	52.50
Youghiogheny River at Connellsville .....	1,326.	.321	.973	1.16	1.80	2.00	5.18	4.03	4.42	1.02	.434	.441	.729	1.82	26.07	53.42
Youghiogheny River at Sutersville .....	1,715.	.300	.875	1.14	1.84	1.81	5.02	3.54	3.64	1.02	.434	.441	.729	1.75	23.65	52.50
Casselman River at Marietta .....	382.	.385	1.20	1.15	1.72	1.86	4.61	3.77	4.37	1.07	.508	.530	.717	1.75	23.65	52.50
Laurel Hill Creek at Ursina .....	121.	.218	1.00	1.71	2.37	2.13	4.45	4.72	6.03	1.07	.508	.530	.717	1.56	21.15	41.07
Turtle Creek at Trafford .....	54.8	.039	.514	.536	1.25	1.38	4.81	2.50	4.45	.453	.383	.315	.491	1.56	16.20	43.56
Chartiers Creek at Carnegie .....	2,235.	.119	.561	.582	1.25	1.08	4.81	2.50	4.45	.453	.383	.315	.491	1.56	16.20	43.56
Beaver River at Wampum .....	181.	.098	.511	.592	1.21	1.37	3.09	2.75	.613	.322	.031	.070	.070	1.19	10.15	32.87
Shenango River near Jamestown .....	608.	.056	.273	.515	1.01	1.14	3.28	2.75	.613	.322	.031	.070	.070	1.19	10.15	32.87
Shenango River at Sharon .....	792.	.045	.286	.385	1.01	1.14	3.28	2.75	.613	.322	.031	.070	.070	1.19	10.15	32.87
Little Shenango River at New Castle .....	105.	.150	.514	.514	1.20	1.58	3.67	2.58	1.55	.370	.114	.073	.079	1.13	15.43	38.51
Pymatung Creek near Greenville .....	169.	.033	.203	.355	1.08	1.26	3.79	3.19	1.10	.137	.046	.053	.059	1.20	12.35	34.05
Connoquenessing Creek at Hazen .....	356.	.057	.643	.789	1.22	1.06	4.69	2.55	2.21	.492	.086	.089	.064	1.20	16.25	36.61

Summary of run-off in second-feet per square mile, run-off depth in inches, precipitation, and per cent run-off to precipitation, for the year ending Sept. 30, 1933

## Potomac Basin

Station	Drain- age area Square miles	Run-off in second-feet per square mile												Run- off in inches	Pre- cipita- tion inches	Per cent off to precip- itation
		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Year		
Evitts Creek near Bedford Valley .....	30.2	0.207	0.987	0.490	1.33	0.954	3.44	3.41	2.77	0.427	0.184	0.225	0.249	1.20	16.27	45.23
Licking Creek near Sylvan .....	158.	.677	2.48	.703	1.35	1.04	3.30	3.92	2.56	.397	.191	.975	.518	1.52	20.60	45.60

Note.- See record of individual station for notations regarding diversion and storage.



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**END OF YEAR**